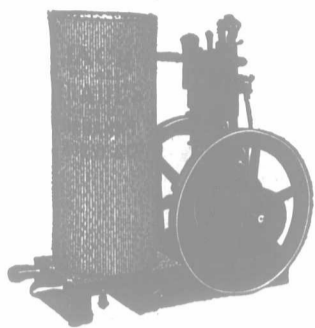


**PAGES
MISSING**

HAVE A FAIRBANKS-MORSE



Gasoline Engine on your farm. There are 70,000 satisfied users, and the up-to-date farmer finds them invaluable. With this well-constructed, reliable machine you will do nearly all your farm work cheaply and easily. You can depend on them working when you want them to. You cannot get anything better to furnish power for pumping, threshing, feed grinding, churning or filling the silo. Write to-day on coupon below for catalogue and copies of testimonials.

The Canadian Fairbanks Co., Ltd.

MONTREAL, TORONTO, ST. JOHN, WINNIPEG, CALGARY, VANCOUVER.

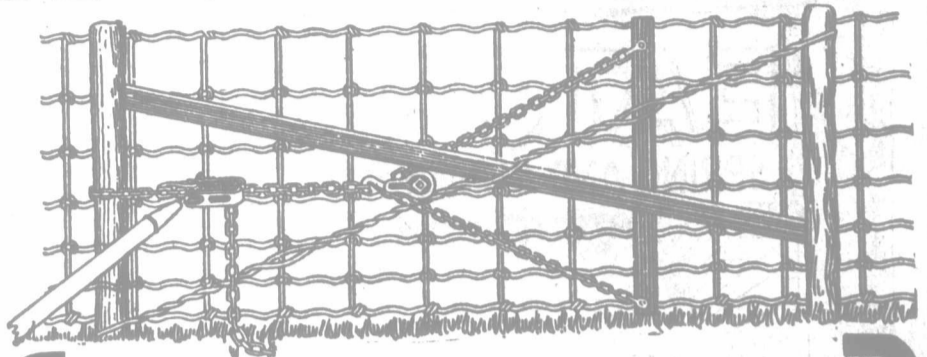
The Canadian Fairbanks Co., Ltd., 444 St. James St., Montreal.

Please send catalogue and copies of testimonials.

Name

Address

HOW TO BUILD A GOOD FENCE



Our new folder on "Erecting Fences" will tell you and if you will follow the instructions carefully when you are through you will have a good job.

It's full of valuable and interesting information on fence building and tells how to erect woven wire fencing in the quickest and most substantial manner.

No farmer, fence man or any one interested in fence construction should fail to write for a copy. It gives all the information required for building fences and we send it

FREE!

In addition there is also a complete and very interesting description of the manufacture of fence wire. Persons who have never had the privilege of visiting a wire mill will find this article of especial interest.

It also has an article quoted from a bulletin issued by the U. S. Department of Agriculture on the manufacture of concrete fence posts, showing how posts made of this most useful and durable material can be manufactured at home. Don't fail to write for a copy today. Ask for our folder called, "Erecting Fences." Remember it's free. Address **THE BANWELL HOXIE WIRE FENCE CO., LTD., Dept. B, Hamilton, Ont.**



BRUCE'S Reliable Seeds

We offer the following oats specially selected for seed purposes.

NEW SCOTTISH CHIEF.—A new variety from Scotland which, after being tested here for four years, we recommend with confidence. It is an early variety, and produces an excellent straw which stands up splendidly. It is a heavy white oat, of splendid quality, and yields most abundantly. **90c bushel.**

NEW TARTAR KING.—A highly recommended variety. Grain plump, heavy, white; straw strong and handsome; a heavy yielder. **90c bushel.**

Also the following standard varieties:

Banner, Siberian, Sensation, Ligowo, 20th Century, Giant Swedish, Australian, Silver Mine, and Black Tartarian, all at 85c bushel. Early Dauboney and Black Goanette, \$1 bushel. Cotton bags, 25c each.

FREE Our handsomely illustrated catalogue (100 pages) of Garden, Field and Flower Seeds, Plants, Bulbs, Poultry Supplies, Gardening Tools and Implements, etc. **SEND FOR IT.**

JOHN A. BRUCE & CO.,
SEED MERCHANTS. HAMILTON, ONT.
Established 1850.

Earn \$75 to \$150 per month as Brakeman or Fireman.

Just study an hour a day for 8 or 10 weeks and we guarantee to assist you to a position on any railway in Canada. Hundreds of men wanted in the next few months. If you want the above salary, ask for our booklet

The Dominion Railway Correspondence School
Dept. F WINNIPEG, MANITOBA.

HAVE YOU TRIED NATIONAL Molasses Stock Food P

Prepared on a purely scientific basis, highly recommended for stock of all kinds, and particularly dairy cows.

Ask for it. Your dealer can supply your requirements. Prepared by

The Wallaceburg Sugar Co. Limited,
WALLACEBURG, ONT.

FRictionless EMPIRE CREAM SEPARATOR



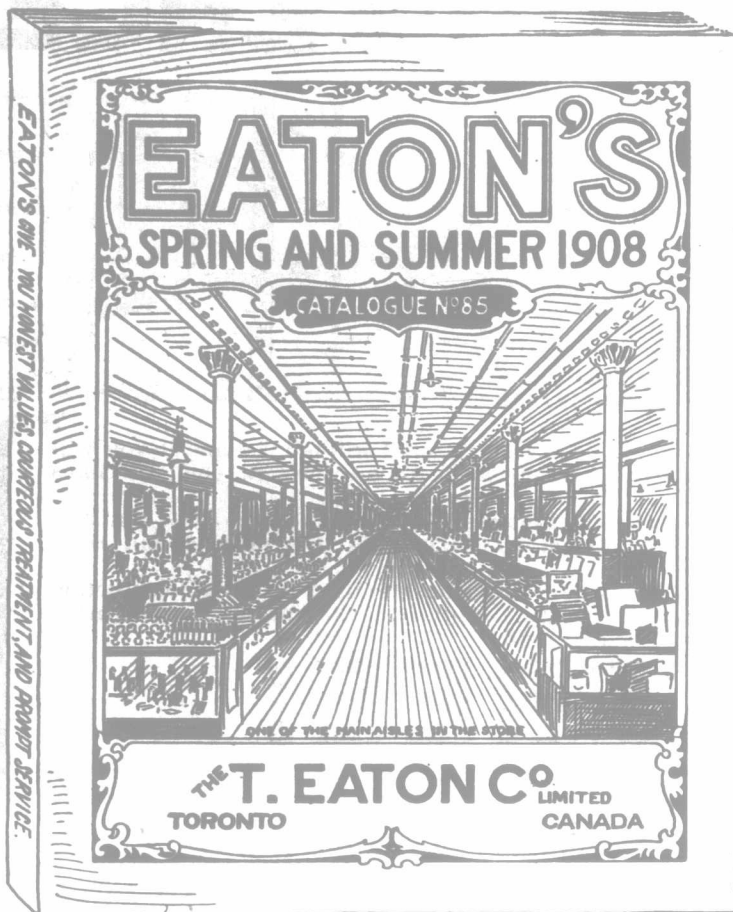
The Bowl Spins on the Balls Just Like a Top.

By the ingenious arrangement of the three balls of our bottom Frictionless Bearing, the bowl of the "Empire" is always kept perfectly balanced, because the point of the spindle sets between the three balls and automatically adjusts itself to the proper centre. The bowl spins on these balls just like a top, only at a speed far greater and without a sign of vibration when at skimming speed. This absence of vibration is one reason why the "Empire" is the easiest running cream separator in existence. Any wear that occurs is taken up by the point of the spindle which is the only point of contact. As the point of the spindle is removable, it can readily be renewed, and at a trifling cost. And every particle of precious butter fat goes into the cream can. In fact, we absolutely guarantee the "Empire" to skim equally as close as any separator in the world. **Free Trial** to prove it. Write for our **Free Dairy Book** which explains how to make more money out of your cows. It is a veritable gold mine of information.

The Empire Cream Separator Company of Canada, Limited,
Western Office, Winnipeg Toronto, Ont.

THIS NEW BIG CATALOGUE IS FREE

Eaton's New Spring and Summer Catalogue, No. 85, now ready for mailing



Have you received a copy yet? Your name and Post Office address on a post card brings this welcome Money-saver to your home, FREE. 320 pages brimful of the latest styles and fashions with over 3200 illustrations. Many new improvements, larger, more complete than ever before, and surprising price-quotations from beginning to end.

You run no risk in shopping with Eaton's by mail. Your orders are put into the hands of experienced shoppers—who for the time are your representatives—and they are as careful as though buying for themselves. Then, if the purchase is not entirely satisfactory, through our **Liberal Guarantee** you may exchange the goods or have your money refunded and we will pay all transportation charges both ways. Our **Free Delivery Offer** will be found on page A3 of New Spring and Summer Catalogue. Read it carefully.

Confidence of the people. Everlastingly sticking to our square-deal principles has brought to this Store the confidence of the people. The confidence that every dollar spent here will bring the maximum amount of value, confidence in getting the money back if anything isn't satisfactory.

Our Purchasing System is based on the thorough experience of a well trained staff of buyers. A large portion of our goods are manufactured in our own factories—the largest in the country selling their entire output direct to the consumers and avoiding all middlemen's profits. Whatever we buy is bought for cash; that's why we get the lowest quotations, and you in turn get the benefits of it.

Every day we are getting larger, growing stronger, adding to our organization, enlarging, adding to and bettering our manufacturing facilities and buying powers, doing more for our Customers, **lowering costs and bettering qualities**, until to-day, we offer in this, our very latest Big Catalogue, the highest qualities, the most moderate prices, and in every way the best service we've ever been able to offer.

If you have not already received a copy of this large Catalogue, do not fail to write for it to-day. Sent FREE

THE **T. EATON CO** LIMITED
TORONTO - - - CANADA

"A straight back will stoop:
A black beard will turn white."
—Shakespeare.

Prepare for the Time

when present strength will fail. Shakespeare knew his world. He knew that advanced years showing in a man lessen his effectiveness. While you are young you should think of the days to come. It may be comparatively easy to earn money now. It won't be so easy then.

A small part of your savings put aside and invested in one of our "Reserve Dividend Policies" will make your old age a time of comfort and safety instead of a time of uncertainty. Write for details to

London Life Insurance Company,
LONDON, CANADA.

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

PLEASE MENTION THIS PAPER
WHEN WRITING ADVERTISERS

Sauce for the Goose

is
Sauce

for
the

Gander

98% of the Professional Butter
Makers of the World use

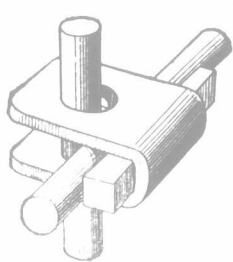
**DE LAVAL
CREAM
SEPARATORS**

THAT'S EXPERT ADVICE

The De Laval Separator Co.

173-177 William Street

MONTREAL



**With Buckeye Wedge Lock
Wires Cannot Slip.** With the Wedge you can lock the wires far tighter than any other lock does, and without kinking or denting. Buckeye Locks are galvanized by a "hot process," exactly the same as fence wire. Equally coated inside and out. Used in U.S. for years, and considered the best fence lock. Same locks for No. 7 or No. 9 stays. Price as low as any.

AGENTS WANTED for Buckeye Fences, Stays and Locks, London Coiled Wire, Gates and Ornamental Fencing.

London Fence Machine Co., Ltd., LONDON, ONT.

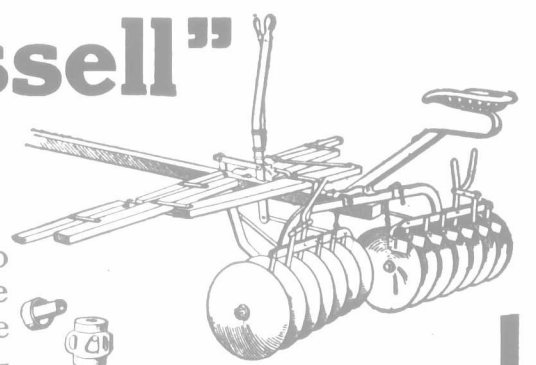
The "Bissell"

Disc Harrow

Triumphs by Comparison

If we could get you to test the "Bissell" on the same field with "the harrow you may be thinking of buying" we know you would quickly decide on the "Bissell."

You would notice that the scraper knives and cleaner keep the plates entirely free of all sods and trash—that the "Bissell" runs easiest and has no neck weight—that the horses on the "Bissell" are comparatively fresh when



those dragging the other are fagged—that the "Bissell" does double the execution in the same time.

Really no Disc Harrow can stand comparison with the "Bissell" Disc Harrow, yet isn't it strange they should cost so nearly alike?

Free Booklet on request. Write Dept w or ask your local dealer.

T. E. BISSELL COMPANY, Ltd., ELORA, ONT.

SAVE TREES THIS FALL

Thousands of trees will be dead by spring unless protected by **Scalecide**, best for trees and machines. Will kill San Jose Scale at 1 to 16 of water, best for trees and machines. Instantly miscible with water, and stays mixed. Non-corrosive to man or beast. In 1-5-10-gallon cans, 25 and 50 gallon barrels. Efficient, guaranteed. Free particulars. **B. G. PRATT, CO., Mfrs.,** New York SPRAMOTOR CO. Sole Canadian Agents, 1085 King St., London, Canada.

ORDER
A
BARREL
NOW

The Farmer's Advocate

and Home Magazine

"Persevere and Succeed."

Established 1866.

Vol. XLIII.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1876.
LONDON, ONTARIO, MARCH 19, 1908.

No. 808.

EDITORIAL

INJUSTICE ON THE HIGHWAYS.

"I would suggest that you begin a warfare in the columns of 'The Farmer's Advocate' against the practice of killing people and destroying property on the public highway by the use of automobiles. It seems to me that anyone who can see justice in such highway robbery as our Government legalizes must be warped indeed. You advocate split-log drags and other devices to better the road conditions; why not agitate for a law that will prevent the makers of good roads from being deprived of the privilege of using them? Why not agitate for an expression of the electorate of rural districts at the next municipal elections? We have nothing against autos, but let the owners of them find their own roads; then they can smash each other to their hearts' content, and, if we venture on their tracks, we will put up with the consequences."

The foregoing letter, recently to hand, as well as others published from time to time, raise a complicated issue which cannot be disposed of with a cavalier imputation of "prejudice against a new invention." Apart from all questions of law and jurisdiction, there are principles of equity and public rights at stake, for which it is the business of our legislators to exercise careful regard. On this, as on all other matters, we are unwilling to adopt any narrow view, and the great majority of our readers are, without doubt, similarly minded. We are reluctant to say to any class of people that such and such methods of propulsion shall be debarred the freedom of our highways. Above all, we are loath to adopt any attitude that history might pronounce as opposition to progress. It is for these reasons that the reign of fear and carnage of death and destruction have been tolerated as long as they have. One consideration tending to forbearance has been the knowledge that not all autoists were utterly callous and reckless, and it was hoped that once the novelty of the plaything wore off, reckless driving would become less frequent, while familiarity would render horses accustomed to the new terror, as they had previously grown accustomed to bicycles. To further mollify the long-suffering rural public, it has been predicted that motor vehicles would eventually come into vogue among farmers as means of convenience and pleasure.

In gracious accord with these and similarly magnanimous views, legislation has been framed with a view to curbing the more flagrant abuses, undertaking to limit the speed of automobiles, and to provide means for identification by numbers, in order that violations of the law might be punished more certainly and damages collected where warranted. There is no doubt the increasing number of motor vehicles have resulted in the majority of horses in the older-infested districts becoming reasonably immune to motor-fright, and some inveterate enemies of autos and automobilists have come to look upon them as unpreventable evils. But an incorrigible evil is an evil none the less, and if we could bulk up in one heartrending sensation all the distress and inconvenience occasioned to the hundreds of thousands of farmers, farmers' children and farmers'

wives—saying nothing about urban pedestrians—owing to the presence of this expensive traffic on our roads, would it not vastly outweigh the small quota of real pleasure and advantage obtained by the dust-choked, grimy-eyed, heavy-veiled, purse-proud beneficiaries thereof? For a luxury that costs so much to its participants and entails such danger, displeasure and loss to other users of the highway, automobiling surely looks like a sorry form of enjoyment. Even in the older districts the automobile is still a curse, while in every new section its advent is followed by trepidation and inconvenience, like unto that caused by an outbreak of smallpox.

Summed up, here is the indictment against the automobile on country roads: Weekly accidents, resulting in destruction of property, mutilation and death; repair seldom complete, and often impossible; punishment frequently evaded; farmers, who built and who maintain country roads, deprived of no small part of the pleasure of using them; wives and children obliged to forego trips they otherwise might take; inconvenience and loss of valuable time by the head of the house in busy seasons; people dissuaded from attending church, or compelled to go at serious risk of mishap; the value of many a spirited horse discounted; clouds of ill-smelling vapor, also of dust, raised and scattered over the country, to the serious injury of fruit, vegetable, forage crops and pasture, and to the annoyance and injury to health of travellers. Lastly, it is asserted, on scientific authority, that automobiles destroy roads by sucking up dust, thus reducing the crown and breaking the surface bond, allowing pieces of stones, gravel and sand to be jarred loose by traffic, and the hard-finished surface destroyed.

The automobile regulations at present in force in Ontario were enacted in 1906, in the Act to Regulate the Speed and Operation of Motor Vehicles. This measure provides that the maximum speed for such vehicles on country roads shall be not more than 15 miles per hour. Within the limits of a city, town or village, the highest speed allowed is 10 miles per hour. When meeting or overtaking other vehicles on country roads, 7 miles only is permitted. In passing a rider or driver, the person operating the car shall signal his desire to pass, and give the driver an opportunity to turn out to a place of safety. He shall also stop on request, and remain stationary as long as necessary. In addition to this, it is provided that persons in charge of cars shall use every reasonable precaution not to frighten horses, and are prohibited from driving in a careless and reckless manner. Section 11 provides that, in the case of an accident, the car shall return to the scene of the accident, and, upon request, the operator shall give his name and address in writing; also that of the owner, and the number of the license. In the event of an offense against this section, arrest may be made without a warrant. In all cases of accident, the onus is cast on the owner of the car. The Act also provides that the license number shall be displayed on the front of the car, as well as on the back, and searchlights are prohibited.

The trouble is to enforce the law, to apprehend the offenders, to make sure of the number on the machine, to retain a clear impression of the circumstances in the melee following an accident, or to prove to the satisfaction of the court that the speed limit has been exceeded. The worst offenders are the hardest to bring to time. Besides, law proceedings are so notoriously expensive and

unsatisfactory that one generally stands to lose more than he gains by carrying a case to the courts. Even if the law were scrupulously observed, much inconvenience would still result. The traffic is a nuisance at the best.

In view of all these facts, there is much to be said for the petition submitted by the Dominion Grange for submission to the Ontario Legislature, asking for further regulations in regard to motor traffic. It is asked that the speed in rural sections be limited to ten miles per hour in daylight, and seven miles between sunset and sunrise; lights carried to be limited to two, one in front and one in rear, of a strength not more than sufficient to throw a reflection fifty feet; that a man be not allowed to drive a car without a license based on strict examination; that no automobile traffic be allowed on rural highways on Sundays, Tuesdays and Saturdays, save by permission of the local county council; that the penalty for a third conviction, under any provision of the act, shall involve imprisonment without the option of a fine, together with cancellation of license; that, when a violation of any provision of the act results in damage to person or property, the penalty may be imprisonment for any offence, first, second or third; that the annual fee be increased and graded in accordance with the capacity of the vehicle; that provision be made for the enforcement of the act by Provincial officers, and that, when conviction is secured on complaint of a person not a Provincial officer, half the fine shall go to the person laying the charge.

In harmony, more or less, with the clauses of this petition, are several bills to amend the Motor Vehicle Act, introduced at the present session of the Provincial Legislature by a number of private members. One of the more drastic is Mr. Devitt's, which would provide that no motor vehicle should be allowed to run or stand upon any public highway in a town, township, incorporated village, or police village, during Tuesday, Thursday or Saturday in any week, or between the hours of 9 a. m. and 2 p. m. on Sunday. One by Mr. Bowyer would compel the driver of a motor vehicle meeting or overtaking a funeral procession to stop his vehicle, and, where practicable, turn out into any intersecting street, road or lane until the procession has passed. Others, by Mr. Ross and Mr. McIlroy, relate to infringements. All these bills are to be entrusted to a special committee of the Legislature.

The question is indeed an awkward one to deal with. One thing is certain: Motor vehicles should be heavily taxed, if only on account of the injury done to roads and crops. The restrictions should be close, and punishment for infraction exceedingly severe. As to the matter of limiting their use to certain days of the week, that would be a distinct hardship on the users, and only a palliative remedy for those for whose benefit it is designed. Another plan would be to stipulate a certain limited number of highways, conspicuously designated, for motor traffic, reserving all others for pedestrians and horse-drawn vehicles. Even this might work a hardship, unless modified, by preventing a farmer on a prohibited road from using an automobile. However, we fancy there are very few who would not willingly forego the privilege. The automobile is not by any means a sine qua non of civilization's progress, and, on the principle of the greatest good to the greatest number, automobile traffic should certainly be regulated far more thoroughly than has yet been attempted in this Province. Our columns are open to practical suggestions.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

AGENTS FOR THE FARMER'S ADVOCATE AND HOME JOURNAL,
WINNIPEG, MAN.

LONDON (ENGLAND) OFFICE:
W. W. CHAPMAN, Agent, Mowbray House, Norfolk Street,
London, W. C., England.

THE FARMER'S ADVOCATE AND HOME MAGAZINE
is published every Thursday.

It is impartial and independent of all cliques or parties, handsomely
illustrated with original engravings, and furnishes the most
practical, reliable and profitable information for farmers, dairy-
men, gardeners, stockmen and home-makers, of any publication
in Canada.

TERMS OF SUBSCRIPTION.—In Canada, England, Ireland
and Scotland, \$1.50 per year, in advance; \$2.00 per year when
not paid in advance. United States, \$2.50 per year; all other
countries 12s.; in advance.

ADVERTISING RATES.—Single insertion, 25 cents per line,
agate. Contract rates furnished on application.

THE FARMER'S ADVOCATE is sent to subscribers until an
explicit order is received for its discontinuance. All payments of
arrears must be made as required by law.

THE LAW IS, that all subscribers to newspapers are held respon-
sible until all arrears are paid and their paper ordered to be
discontinued.

REMITTANCES should be made direct to us, either by
Money Order or Registered Letter, which will be at our risk.
When made otherwise we will not be responsible.

THE DATE ON YOUR LABEL shows to what time your
subscription is paid.

ANONYMOUS communications will receive no attention. In
every case the FULL NAME and POST-OFFICE ADDRESS MUST
BE GIVEN.

WHEN A REPLY BY MAIL IS REQUIRED to Urgent
Veterinary or Legal Enquiries, \$1 must be enclosed.

LETTERS intended for publication should be written on one
side of the paper only.

CHANGE OF ADDRESS.—Subscribers when ordering a change
of address should give the old as well as the new P. O. address.

WE INVITE FARMERS to write us on any agricultural topic.
We are always pleased to receive practical articles. For such as
we consider valuable we will pay ten cents per inch printed
matter. Criticisms of Articles, Suggestions How to Improve THE
FARMER'S ADVOCATE AND HOME MAGAZINE, Descriptions of
New Grains, Roots or Vegetables not generally known,
Particulars of Experiments Tried, or Improved Methods of
Cultivation, are each and all welcome. Contributions sent us
must not be furnished other papers until after they have
appeared in our columns. Rejected matter will be returned on
receipt of postage.

ALL COMMUNICATIONS in reference to any matter connected
with this paper should be addressed as below, and not to any
individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

THE CEMENT - CONCRETE AGE.

Alarmists who predict the paralysis of indus-
tries and the stay of progress because of the in-
creasing scarcity and cost of certain products,
sometimes forget the undeveloped resources of
nature and the resourcefulness of man. Of
this truth, one of the best illustrations is
the substitution, in building, of cement-concrete
for natural stone or rock and wood. It is one
of the marvels of the times how science and
mechanism have harnessed up water, gravel and
cement. Our readers have been getting out ma-
terials for the improvements on the farm of an-
other building season. Judging from the hundreds
of inquiries reaching "The Farmer's Advocate,"
and because mistakes may easily be made in the
initial efforts with a new process, a comprehensive
article appears in the Farm Department of this
issue, discussing in detail the nature and uses of
concrete, based upon the personal experience of
members of our staff, of many of our readers, and
of experts on the subject, in a way which we
trust will prove helpful. Every farmer would do
well to preserve this article for future reference,
if not needed at once, as it may prove the means
of saving many inquiries and delays when the
actual work must be undertaken. While our aim
has been to make the article as generally prac-
ticable as possible, it is well to bear in mind that
conditions greatly vary, and the best success will
often depend upon individual care in the choice of
materials and skill in their use. By means of
the rules given, anyone can estimate approximat-
ely the quantities of cement and other materials
required for a given work.

I see your readers are still praising "The
Farmer's Advocate." We have read it for over
30 years, and now consider it a standard. Wish-
ing you success.
C. J. McFARLANE,
Cumberland Co., N. S.

THE SHORTHORN RECORD OF DAIRY PER- FORMANCE.

"I think it is a strong argument for the
adoption of a Record of Dairy Performance by
the Dominion Shorthorn Breeders' Association,"
writes a thoughtful correspondent, prominently
identified with Canadian live-stock interests,
"that, when asked recently by a farmer where
he could get a good Shorthorn bull of a dual-
purpose strain, I could not be sure of a single
herd to recommend to him, and I think I know
the Shorthorn herds in Canada pretty well.
That there are such strains in the country, we are
well aware, but the point is, Where are they?
What are they? and, Who has them? A Record
of Performance, based on a system of officially
supervised yearly tests for milk and butter-fat
production, would discover the dual-purpose
strains, revealing just how fully certain individ-
uals, strains and herds were entitled to the claim,
dual-purpose. Had there been a Record of Dairy
Performance, I could have promptly directed my
inquirer where to look. In fact, he would not
have required to ask."

In this day and age, business farmers do not
take things too far on trust. It is easy for a
breeder to point to a few old matronly milkers
in his herd, and, on the strength of their udders
and appearance, found a claim to having a dual-
purpose herd. Such talk will not go. Purchasers
have been fooled too often by form and high-
sounding pedigree, not only in Shorthorns, but
in the special dairy breeds as well. Nowadays
men are not ashamed to acknowledge themselves
"from Missouri." They "want to be shown." Re-
cognizing the call of the times, the enterpris-
ing breeders of dairy cattle are going in whole-
sale for official testing and records of perform-
ance, and breeders of Shorthorns must do the
same or suffer their claims to be discredited. It
will not be enough to enter two or three ani-
mals from a herd. The logical conclusion will be
for breeders of special dairy or dual-purpose stock
to enter every female, not only for one, but for
several successive lactation periods, and for one
generation after another. Thus, in time, we
shall build up long pedigrees based on perform-
ance, which will be a reasonable guarantee of
dairy capacity in the progeny. Pedigree based
merely on the results of show-yard comparison is
more liable to be misleading than otherwise. It
is not form, but capacity to perform, that we are
after to-day.

While on this subject again, let us once more
emphasize that the call is not to sacrifice beef
type and turn undivided attention to milk, but
rather to retain the beef type and the beefing pro-
clivities, and to develop in cattle of this type a
liberal degree of milking capacity. As has been
reiterated by our correspondents, this is largely
a matter of management. How long would a
family of Ayrshires or Holsteins retain their milk-
ing function if handled for a few generations as
many of our Shorthorns have been? That the
Shorthorn breed possesses as much milking ca-
pacity as it does, considering the system of man-
agement that has been practiced, is a wonderful
tribute to the original dairy quality of the breed,
and, at the same time, a most encouraging augury
of the feasibility of restoring this function under
a judicious system of development, breeding and
selection. The heifers must be bred at a reason-
ably early age, and milked as punctiliously as
those of the dairy breeds. This, by preventing
the accumulation of excessive fat, will improve
their milking capabilities and procreative facul-
ties, lessening the proportion of barren and
inferior breeding individuals, which are na-
ture's signs of rebellion against the unna-
tural system now followed. The Shorthorn breed
has everything to gain and nothing to lose by
taking this forward step.

Once more, also, let it be made as plain as
words can state that the dual-purpose cow is not
advocated to supplant the dairy breeds. The
dairy industry bulks large in Canada, and where
it flourishes the special dairy breeds quite prop-
erly have the call. In profit-making, they can hold
their own with the best dual-purpose strains like-
ly to be developed, and generally afford a few

points to spare. But the dual-purpose cow must
occupy the field which certain dairy authorities
have been kind enough to reserve for the special-
purpose beef cow. The latter, divested of pedi-
gree and show-ring-bolstered valuations, and re-
duced to a matter-of-fact commercial basis, is
not a paying proposition in this country, except
in very limited sections. It is a very bold beef-
making experimenter who will claim that the
average beef-bred male calf could be purchased at
birth for over five dollars and reared for beef, to
show a living profit over cost of food
consumed. Many assume that, to make a profit
out of raising the calf, it should be assumed as a
free gift to start with. But value it at \$5.00.
If a cow has to be kept for a year in order to
produce a five-dollar calf (saying nothing about
blanks or mischances), and yield merely enough
milk to suckle the calf for a few months, how in
the name of reason can she be maintained at a
profit on the increasingly valuable farm lands of
this country, having regard for present or pro-
spective prices of beef? The dual-purpose cow
is needed in Canada in order to insure the
economical production of a supply of good beef.
To this end, she must milk liberally. The three-
or-four-thousand-pound milker will not do. It
is the five, six, eight, ten and twelve-thousand
pound dual-purpose cow that we need, and that
our breeders must set about it to produce. Such
cows there have been in goodly numbers; such we
have yet in occasional instances, and such there
can and must be as a general proposition.

In another column will be found a copy of a
notice of motion which had been sent to the Sec-
retary of the Dominion Shorthorn Breeders' As-
sociation by W. E. Shean, who, unfortunately,
was unable to attend the annual meeting to
espouse it, and it was, therefore, not brought up,
though a general resolution approving the idea
was introduced by Dr. Hopkins, and laid on the
table. In Mr. Shean's motion is incorporated a
proposed minimum standard of milk and butter-
fat production for two-year-old heifers, three-year-
olds, four-year-olds, and mature cows. That is
to say, all those regular-breeding, registered cows
or heifers which, in officially-supervised yearly
test, gave an amount of milk and butter-fat equal
to or exceeding the standards specified for their
respective ages, would have their names, numbers
and milk and butter-fat records published in a
special department of the herdbook, while, of
course, their names would also occur in their
proper order in the regular pages. The standard
proposed corresponds, we believe, to that adopted
by the Ayrshire breeders, and should answer very
nicely. There is no use in making a standard
too low, else admission to it will not stand for
anything. On the other hand, it must not be too
high. A moderate standard, with a large num-
ber of animals entered, is desirable, seeing that
the object is not merely to publish a few impres-
sive records, but to develop the dual-purpose func-
tion generally within the breed. Any cows mak-
ing good records will, of course, have these stand-
ing to their credit. A large number of good per-
formers of proper beef type are every way pre-
ferable to a few phenomenal hat-racks.

The Record of Performance is needed (1) to
demonstrate the dual-purpose attributes of the
breed; (2) to induce and enable Shorthorn breed-
ers to breed and develop a larger number of more
useful dual-purpose cattle; (3) to keep tab on
and ear-mark those herds, strains and individuals
which have been or are being bred and developed
along dual-purpose lines.

When we are enabled to select dual-purpose cattle
by the eye for constitution and beef type, and by
authenticated milk and butter-fat records for
dairy performance and heredity, the breeding of
dual-purpose cattle will be in a fair way to being
placed upon a workable scientific and commercial
basis.

NEEDED IN PENNSYLVANIA.

Enclosed please find a postal note for \$2.50,
for renewal of my subscription. I may say that
I could not farm without your valuable paper.
Any young man in agriculture needs it. Hoping
your success will continue.

WALTER McLEOD,
Bucks Co., Pa. Man. Bewley Farm.

EDUCATION FOR FARMERS.

Editor "The Farmer's Advocate":

Never in the history of the world has the need of education been so apparent as at the present time, and perhaps never before has our fair Dominion made such great strides of progress in the lines of education as in the last ten or twenty years.

But it is only in recent years that the farmer has opened his eyes to the fact that he, above all others, should have a good sound education. We will not have to look back so very many years to see the time when an educated farmer was not to be found. There were High Schools, Colleges and Universities then as well as now, but, as a rule, only town boys and girls took advantage of them, and perhaps a few farmers' sons who intended leaving the farm and going into business or commercial life, or following one of the many occupations aside of agriculture, while the great mass of young farmers were doomed to go through life with barely a good public-school education. Such as were fortunate enough to see the inside of a High School were few indeed, and to look for a college graduate on the farm was like hunting a needle in a haystack.

Agriculture is certainly the grandest and noblest occupation on the face of the earth. When we consider the fact that the farms in Canada produce more marketable produce every year than all our mines, forests, factories and fisheries combined, we can get a slight idea of the fertility of Canadian soil, and a conception of the magnitude of Canada's grandest occupation. Judging from the past, we at once see that Canada's future progress and advancement depends largely, if not altogether, on the intelligence of her farmers. In this advanced age, the successful farmer must put, not only brawn, but also brains, into his work. He should know not only the how, but also the why of things.

President Roosevelt says: "A country is no greater than her rural population." Is this not another proof that true national greatness must come through the agriculturist, and through the agriculturist only?

Observation tells us that at least ninety per cent. of our successful business men, such as manufacturers, merchants and mechanics, are born on the farm; while, in professional life, as teachers, doctors and lawyers, we can claim even a higher percentage. Why is it? It is because the farmer's son is blessed with the best heritage on earth, namely, strong arms, sound brains, and plenty of ambition and energy to insure a successful termination to any undertaking. The question might be asked, Why do these industrious and ambitious young men leave the farm? The answer is plain and simple: Because their ambitious nature is not satisfied with the quiet routine of farm life. They long for higher things, and thirst for deeper knowledge. How, then, can we keep these fiery sons of the soil at home? First, by beautifying the home, and making the farm life as pleasant and interesting as possible. Second, by giving the aspiring young man a good, practical education at some college which presents the great occupation in its true light and proves to the young student that agriculture is beyond a doubt one of the noblest of callings, one of the latest of sciences, and to enter its domains means to enter one of the broadest fields for scientific research on the face of the earth.

The young farmer of to-day certainly has glorious opportunities, when compared with those of the past. Think of literary societies, Farmers' Institutes, farmers' clubs, agricultural courses at our High Schools, agricultural colleges, etc. Perhaps, of all these, the literary societies or debating clubs are doing the most good, because they are within the reach of all. They are a social blessing to Canada's young people, drawing them together in closer bonds of love, confidence and unity. They break the monotony of farm life by changing the every-day routine of hard labor to a little brain exercise, even if there is a little fun and nonsense sometimes. The wise old saying has followed down through the ages, "All work and no play makes Jack a dull boy." But it does a greater and nobler work than this. It develops the talent of song and public speech. And, by practice, the enthusiastic members often unearth such talent as would leave some of our practiced and experienced public speakers in the background. In this way, literary societies in rural districts have produced some of the nation's deepest thinkers, noblest writers and finest orators. And what, in reality, are a nation's greatest men? Are they not such who, by their eloquence, can sway an audience at will; such who, by their tact and ability on the public platform, can express their opinion on different subjects in such a way as will be appreciated by all hearers? Such, who, by their enthusiasm, can inspire the nation to higher ideals, loftier thought and nobler aspirations? Knowing this, let us, then, young and old, give due credit to literary societies, and show our appreciation by taking hold of the work with strong hands and willing hearts, as it is only by co-operation that these societies can ever rise to the height of their

possibilities. And, by so doing, there is no doubt we will yet see results that will go even far beyond our wildest expectations.

Taking everything into consideration, we cannot fail to see that there are brighter days dawning for the Canadian farmer, and it is to be hoped that the days are gone, never to return, when men, through blind ignorance, will say, "I am only a farmer." How can we expect others to respect us and our occupation if we fail to show to the world that we have a high opinion of our life's work. Let us, then, as true men and fellow agriculturists, join hands, and stand firm for agriculture, education and prosperity, and in ten years from now we will see more college graduates and more public speakers, more intelligent farmers, truer men, and better citizens.

S. S. LAUTENSCHLAGER.

Waterloo Co., Ont.

A BRITISH COLUMBIAN'S OPINION OF OUR PREMIUMS.

I am slow of sending in my subscription, but, all the same, I could not do without "The Farmer's Advocate." The first premium that I got from you was a watch, for 21 names, and I sold the watch for \$20. The second was a lady's watch, which I gave to my wife, and it is a dandy; money could not buy it; it keeps fine time. And the reading-glass—well, I have prospectors using it, and they said they paid \$3.50 for a glass not as good as mine. Now you know what I think of the premiums I have got of you. People say that you send out first-class goods. Mrs. Martin would like to get the lady's handbag as a premium. Excuse an old man writing a long letter to you, but I thought, in justice to you, that the least I could do was to thank you for your kindness in sending such good premiums as you do. With best wishes to "The Farmer's Advocate" and staff. WM. M. MARTIN.

Yale & Cariboo, B. C.

include stallions registered in the American Stud-book, published by the Jockey Club, New York, U. S. A. The revised offer is now announced in our advertising columns, and owners of Thoroughbred stallions recorded in either the Canadian or American books are advised to make early application to W. P. Fraser, Secretary the Ontario Jockey Club, Toronto, Ont.

BREAKING COLTS.

By M. R. W., Montreal, commended in Horsemen's Experience Competition.

These remarks are intended to apply to draft or general-purpose horses, but may be applied to any breed with good results. After many years of observation and experience, I am led to believe the best time to begin a colt's education is when he is quite young, even at three or four days old, provided he is strong and healthy. It is much easier then, is often convenient, and is lasting, when followed up with a little care and attention. The young foal should be at no great distance from the buildings until he is at least two or three weeks old, so that he may be sheltered from chilly nights and rains, so that there should be no trouble to give him the little teaching he requires at that age. When I had a foal born in a box stall, as soon as he began to run around the stall, I used to catch him in my arms and hold him until he ceased struggling, then allow him to walk away towards his dam. After this was repeated a few times, I put a sort of halter on him, by taking a strap about three feet long, putting one end over his neck and back under his throat and around his muzzle, and up to his throat again, taking both ends in the right hand, and, by this, guiding him towards his dam before letting him go. In this way I have learned foals to lead very nicely in two or three weeks, without a struggle. It is true it may be done in much less time than this by being a little harsh, but taking time is often the fastest way to teach either horses or colts. When the foal has been learned to lead, it is good practice to lift his feet for a second at a time at first, each foot in turn, a little longer each time, until he allows his feet being lifted, as desired. This is especially desirable, as some colts give a great deal of trouble at first shoeing. At this stage the foal may be allowed to run with his dam until weaning time. All that is necessary is to try to keep him from getting wild by caressing occasionally, but do not fool with him, or allow anyone else to do so. Attend to his health and education—nothing else. A few days before weaning, it is well to put on a proper halter, give him another lesson at leading, and learn him to stand tied. He may have become wild by this time; if he has, corner him up in the stable and halter him. The best way to learn him to stand tied is to put a rope as a surcingle, fasten it between his fore legs, put the other end up through the ring of the halter,



Perfect Motion (13123).

Clydesdale stallion; bay; foaled May, 1904. Sire Baron of Buchlyvie, by Baron's Pride. First in open aged class, and winner of Brydon Shield, Glasgow Stallion Show, 1908.

HORSES.

ONTARIO JOCKEY CLUB'S PREMIUM OFFER REVISED.

In the Horse Department of "The Farmer's Advocate" of February 27th, notice appeared of the decision of the directors of the Ontario Jockey Club to offer the sum of \$1,000 in premiums for Thoroughbred stallions, with the hope of improving the quality of the half-bred horses in the Province, and to further induce the breeding of half-bred mares to Thoroughbred stallions.

Since the original notice was sent out, a few slight changes have been made in the rules. As first announced, a stallion, to be eligible for these premiums had to be registered in the stud-book of the Canadian Thoroughbred Horse Society, Ottawa. The offer is now broadened to

and tie about as high as his nose; he will not pull much, and if he does he cannot hurt himself. This is especially a good way to tie a colt three or four years old that has never been handled, as a big, young horse, weighing about thirteen hundred, can break almost any halter. It is good to put something under the rope to prevent it cutting back of the withers. Colts should not be left alone until they are accustomed to stand quietly, as at first they are liable to become cast in various ways. When the colt has been weaned, and will lead and stand tied properly, he should be allowed all the exercise he requires in the paddock, or else, where out, if there are others to play around with, all the better. He may now be allowed to run for a couple of years. All that he will need is attention to his health, and a little caressing occasionally. At two years and a half, if a big, strong colt, he should be broken to harness. If the colt is undersized, it is well to let him run longer. It is good prac-

to put a bridle on with a good large bit, and let him stand with it on for an hour or two each day for a week, to harden his mouth, as, without this, the mouth usually becomes chafed. Two weeks would be better to learn him to drive. A surcingle should be put on, with rings half way down his sides, or a little lower, to put the reins through. In this way, a driver can turn a colt whether he wants to or not. Take him into a paddock, and see that there are no colts within sight to annoy him. Be sure to have a whip, and be also sure to use it as little as possible. A very few lessons should learn him to drive very nicely, after which he should be hitched up double, if convenient, as colts always break better to harness with company. A short drive should be sufficient at first, increasing each time as the colt becomes hardened up. It will depend on the size and strength of the colt as to when he should be put to work. Colts that were big and strong I always put to work regularly at three years. I have found it most profitable to break colts this way, as they take to their work more kindly, and are ready as soon as they are big and strong enough to work. It also prepares them for the market sooner.

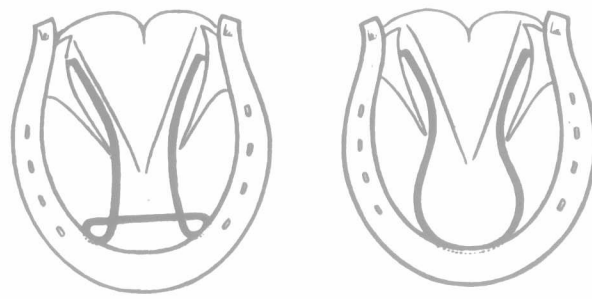
There need be no difficulty breaking the average colt at any age, but anyone who raises two to four colts a year for market, and picks up a likely horse or colt and prepares him for sale, is sure to find some with undesirable characteristics. This has been my experience. I rather enjoyed breaking horses, and did not mind if they were difficult to manage, but have sometimes had more than I wanted. Sometimes I knew what they were when I got them; sometimes I got them the way David Harum got his, and, may say, have had quite a few bad characters—the sulky, the cross and vicious, and the rattle-brained. They are all hard to manage when they are over five or six years, and their habits become settled. They are sure to give trouble. I will give a couple of instances of sulky, or balky, horses, as they are sometimes called, which came my way. One was eight or nine years old, and the other six; neither had ever earned its board up to this time, and both had changed hands many times. The former, when he got into his temper, would stand with his head up, his ears hanging, and his eyes half closed, and deaf to all entreaties to move on. It was very evident that the whip and all other extreme measures had been used, but kindness, with firm and gentle training, had been omitted from the beginning. I must now go back and teach him what he should have been taught before he was put into harness. It was not that he would not work sometimes, but he only worked when he liked, and a horse, to be serviceable, must do his work when wanted, and willingly. After allowing him to stand in the stable a couple of days, until I knew he would be pleased to get some kind of exercise, I began by taking him out night and morning for a drive around the paddock for half an hour, as a colt, and, when put into his stall, gave him a rub-down and a handful of oats before I left him. He seemed to enjoy the little exercise he was getting. After a couple of days I put the harness on and drove him around the paddock, being very careful not to ask him to do anything I could not compel him to do, for this was the mistake that had been made with him from the beginning. I always carried a whip, and, although I did not punish him, it was useful in making him obedient to the reins and the word of command. In this way I taught him to go around the paddock without reins anywhere I wanted. He now needed more exercise than he was getting, so I put the riding saddle on him. He did not like it very well at first, but got him going after a little twisting and turning, only allowing him to walk, always finishing up with half an hour in the harness, the rub-down and the handful of oats before I left him. He was doing all right. It was now time to increase his work, so hitched him to a pair of shafts and attached them to a stone-boat and drove him around the paddock around which he had been well accustomed to go, and where I knew he would not refuse; also driving him a short distance out of the paddock when the opportunity presented itself, standing on the stone-boat sometimes, and always rewarding him when put into his stall. In addition to his training, I began to give him a little work around the buildings, such as drawing manure to the field, loading very lightly at first, and giving him another vehicle to follow, for great care must be taken with a horse of this kind to make haste slowly, so that everything he does is a lesson for the better. Now it took fully three months of careful training of this kind before he was reliable, after which he would do any kind of work when wanted. It will easily be seen that this kind of breaking is not profitable. I will give another instance of a horse of the same kind giving good satisfaction; I think I may say by accident. He was a fine big chestnut, of the Hackney type, with a dash of the Thoroughbred; over sixteen hands, looking like a hunter, six years old. He took very unkindly to harness, and it was very evident he had never been taught any manners. The owner told me all about him, and let me have him very reason-

ably. After giving him a few lessons around the paddock, and learning him to do as he was told, I put the saddle on him, as he was a likely horse for that purpose. He took very kindly to the saddle, and seemed to be in his element when exercising. In this respect he needed no breaking. I then began trying him at hurdles, and, to my surprise, he took to them very easily, and in two or three weeks had developed into an excellent jumper, and I had no trouble placing him as a hunter, where he gave good satisfaction to the purchaser. It sometimes happens that a horse which is not serviceable in one line of business, can be very good in another. It is a good idea, when a horse difficult to manage turns up, to commence by giving him anything he will do. After, with good judgment and care, he will work into anything he is wanted to, and be a very serviceable animal.

Quite a few cranky and undesirable characters have come my way, and, on the whole, would say they are unprofitable, as they take up too much time, and they demand the strictest attention and care, which is often not convenient to give them. I would, therefore, say to the amateur, beware of the horse that stands with his head up, his ears hanging, and his eyes half closed; it is a sure sign of trouble. Am glad to say the cross and vicious are not often met with, but are sometimes dangerous. The big, strong, healthy, even-tempered horses and colts were always the ones that I found the most profitable.

SPREADING A CONTRACTED HEEL.

Do you approve of spreading the shoe after it is nailed on as a way of enlarging a contracted heel on a horse? W. B.



Something may be accomplished in this way if gone about judiciously and moderately, not attempting to spread it too much at a time. A better plan, however, is to have the blacksmith make a steel spring to lay in the foot in such a way as to exert a gradual outward pressure on the bar. The accompanying diagrams show two kinds of springs, both constructed on the same principle, except that one has a sort of double spring. The construction and application are explained by the cuts. In Fig. 2, for instance, the corners of the bent portions lie between the sole and the inner edge of the shoe. When applying, the two arms are pressed together, and when released they spring outward, the little spur on the end of each being pressed into the bar, which is purposely left rather prominent. This exerts a constant pressure of about ten to twenty pounds, which gradually spreads the heel in the same way as it is supposed to be naturally spread by the frog. From a mechanical, and more particularly from an anatomical standpoint, this is much better than merely spreading the shoe, as the latter method tends to spring the wall of the hoof away from the tender tissues, in much the same way as pressing against the inner edge of one's finger nail would tend to crowd it away from the sensitive tissues with which it is intimately related.

LIVE STOCK.

PROPOSED STANDARD FOR SHORTHORN RECORD OF PERFORMANCE.

Editor "The Farmer's Advocate":
Your communication of recent date to hand, requesting copy of resolution forwarded to the Secretary of the Dominion Shorthorn Breeders' Association. Owing to being indisposed, I was unable to attend the meeting in the Temple Building, as I had expected to do, to present the motion to the meeting.

Your editorials of a recent date, touching on the subject of a Record of Performance for Shorthorns, are timely and thoroughly up-to-date, and I desire the privilege of saying a few words along that line.

A large proportion of the men on the average farm (who are not directly interested in dairying or breeding show cattle) are discussing the raising of Shorthorns with a view to a more liberal milking strain of cattle, and this is not the result of some orator stirring up the people's mind, but of dire necessity. The time has come when the cow must prove her worth, and the breed we require to meet the dual purpose of supplying milk and beef, must be able to produce those two commodities, and produce them at a profit.

The Shorthorn has been the rent-paying animal of the past, and must not be allowed to lose her

position in the farmer's estimation. Farmers have required in the past, and will even more in the future, a cow that can produce a calf that should weigh, at one year old, about 700 pounds, and, in addition, should be able to make \$40 or \$50 worth of butter. But someone says it is impossible to raise a good calf unless it can suck. This is not at all necessary, and, for example, take that yearling steer, the champion at the fat-stock show a couple of years ago.

Milk we must have, and, on high-priced land around cities, where a large percentage of the milk supply must be raised from a cow that can produce large quantities, and, at the end of her career as a milk producer, she must be able to replace herself with another cow from the price realized from her beef, in order to conduct a milk business at a profit. The milkmen of the East, in the United States, were paying large figures for good cows of Shorthorn breeding last fall. quote the following from the Breeders' Gazette of October 16th, 1907:

A DEMAND FOR LARGE COWS.

"Eastern buyers are clamorous at Western markets for good cows. A Pennsylvania man bought several head of big Shorthorn cows, weighing about 1,400 pounds, at \$100 per head. They were shipped to Buffalo, and promptly turned over at remunerative figures. 'I can sell a thousand of that kind in a week,' he said. 'Eastern buyers want big cows that can be milked seven or eight months and then beefed; and the bigger they are, the better they like them.' Never before has Eastern demand for good milkers and forward springers been as strong. There is no scarcity of the kind of cows dairymen do not want, but anything with sufficient quality to justify bids in excess of \$50 gets a prompt call. A bunch of Shorthorn cows invariably find Eastern buyers in keen competition."

In advocating a Record of Performance for dairy Shorthorns, the idea must not be allowed to become mistaken as an attempt to place the breed as dairy cattle and nothing else, but as an advancement from the present condition. We are all proud of the sweeping victory that Shorthorn steers accomplished at the fat-stock show last Christmas at Chicago, Smithfield and Guelph, and we desire to see the victories repeated as often as possible, but we must not forget that the steers we see and read of did not occupy their pre-eminent position because they were Shorthorns, but because they had a liberal allowance of nature's food—milk. Now, if the Shorthorn men were to establish a Record of Performance for their cows, with the large number of Shorthorns in the country, there should be no reason why we could not show as many cows in the official milking records as the dairy breeds, with a smaller number of animals; and once it can be shown that the dairy breeds have no advantage over the Shorthorn cows, the latter with their undoubted abilities as beef producers, the trade for breeders would be better than ever, as a man would then not have to sacrifice his calves on the altar of milk, as he must now do.

Now, the reader may say, How do the dairy Shorthorn cows pay? and, for answer, we will refer briefly to the herd of Mr. Geo. Taylor, of Cransford, near London, England. Mr. Taylor is a tenant-farmer, having 500 acres, for which he pays about \$26 per acre in rent and taxes; and, with his herd of 150 cows, can pay his way and make a profit. Some will say, But can he sell them? Well, at his sale, he sold a large number at about \$300 per head, one cow bringing \$1,000. Again, the question is asked, Will they compare favorably as dairy cows with others? and we will, for convenience, take Lord Rothschild's herd at Tring Park, where we find 57 Shorthorn cows, giving an average of 6,708 pounds; 36 Red Polls, 6,743 pounds, and 21 Jerseys giving 6,919 pounds, and, considering the number in the herd, this is very creditable; and, in Mr. Taylor's herd, he will not keep a cow that cannot produce 700 gallons a year.

Now for the motion sent by me to the Secretary of the Dominion Shorthorn Breeders' Association, which was as follows:

"That we, the members of the Dominion Shorthorn Breeders' Association, in annual meeting assembled, do hereby establish a Record of Performance for Shorthorns, and that the standard of registration be the same as for Ayrshire cattle, which is: All cows admitted must equal or exceed the records specified below: Two-year-olds, 5,500 pounds of milk, 198 pounds butter-fat; three-year-olds, 6,500 pounds milk, 234 pounds butter-fat; four-year-olds, 7,560 pounds milk, 270 pounds butter-fat; aged class, 8,500 pounds milk, 306 pounds butter-fat. The per cent. of butter-fat shall be determined by Babcock test."

Now, in making the requirements for the records to equal the Ayrshire, it might be said that it is too high, but if we make it the same as for French-Canadians, which is, for two-year-olds, 4,400 pounds; three-year-olds, 5,700 pounds; four-year-olds, 6,000 pounds, and aged class, 6,800 pounds, with the same number of pounds of butter-fat as required by Ayrshires, it would

the growth of crops other than grain, which give the greatest profit when raised on a large scale on new and comparatively cheap land.

It appears, for example, that the average crop obtained from an acre of potatoes in Germany is worth about \$40, and from an acre of sugar beets \$55, while wheat yields only \$29, and rye \$21 per acre. In France, the acre value of hops reaches \$153, of tobacco \$93, and of sugar beets \$47, against only \$21 per acre for wheat. In the Netherlands, the gross return per acre of wheat, \$26, is far overshadowed by the returns from tobacco, \$213, potatoes \$74, and sugar beets \$52.

Wheat bread is increasing in use much faster than rye bread. For all Europe, the annual per-capita consumption of rye twenty years ago was a trifle under 3½ bushels. It is now just over 3½ bushels. During the same twenty years the wheat consumption increased from 4 to more than 4½ bushels a year for each inhabitant. Only Russia, Germany, the Netherlands and Scandinavia now use rye more largely than wheat.

The rye acreage has been practically stationary. Twenty years ago Europe had 5,000,000 more acres under rye than wheat. To-day the wheat acreage is greater by 22,000,000 acres. In the East, wheat is the great money crop, grown principally for sale abroad, while the Russian peasant contents himself with rye-bread, and the farmer in the Balkan States with corn "mama-liga."

OLD BARN RECONSTRUCTED ON PLANK-FRAME PRINCIPLE.

Editor "The Farmer's Advocate":

As you are now discussing barn plans and construction in your columns, possibly some of your readers would be interested and benefited by a recital of my last year's experience in building.

Among the first outbuildings erected on this farm were some open sheds 24 feet wide. About thirty years ago one of these was raised, and a stone stable put under part of it, making in all a barn 86 x 24 feet, with one drive floor, and a stable about 50 x 24 feet. The posts were 16 feet long, and the roof about one-quarter pitch.

Last summer I tore down the whole building and built it up again, 14 feet wider than before, putting a modern stable under the whole of it, and, with a view to save time and money, I devised the accompanying plan of construction for the barn frame. The undotted lines show one of the inner bents, while the dotted lines show the beams (B), and the girts (G), on the end bents. The posts (P) and the lower rafters are those of the old barn, while the upper rafters are new. The braces (a) are of 1 x 4-inch spruce, 10 feet long, and are nailed firmly on both sides of each pair of rafters. The braces (b) are of 1 x 5-inch spruce, and are nailed onto each post, either on one or on both sides, according to the position of the rafter nearest the post. Short braces (m) are nailed onto each joint of the rafters to stiffen it. (R) is an inch iron rod, supported by twisted No. 9 wire (W) to the hip of the roof. There are four of these rods in the barn, one on each side of each driveway. The braces (p) are placed at the foot of the posts, and spiked to joists or cross-beams. Some of these braces are omitted, where they would be in the way, and in the center three bents are braced by the granary.

So far, I have found this frame very strong, very capacious, and very economical of material. The rods on each side of each driveway are not at all in the way, and the three mows—one at each end, and one in the center—are free of all obstructions from floor to roof. The lower rafters, rising 10 in 8, scarcely diminish the mow space until one gets up to the hip. And, by describing a semicircle on the line, U V, it can be seen how closely the roof arch corresponds to a semicircle.

The above-described construction is, I think, very satisfactory and economical for one who has an old frame to remodel. Of course, the plank-frame proper is cheaper if one has to build anew, but, in utilizing old material, this one has distinct advantages. In conclusion, I would give a word of caution to prospective builders: Make the end beams and girts strong and stiff; otherwise, the contents of the mow will spring the ends out.

I should be pleased to give more detailed information if any of your readers care to apply for the same. W. C. GOOD.

Brant Co., Ont.

THE BOUND VOLUMES AN ENCYCLOPEDIA OF AGRICULTURE.

My father, who died in January last, had carefully preserved every number of "The Farmer's Advocate" for 30 years. They form many bulky bundles now, but are of great value, as they are almost a complete encyclopedia of agricultural information. In looking over them, one can trace the progress of Ontario in the science of farming. J. E. BENSON.

Prince Edward Co., Ont.

TANNING SKINS.

Editor "The Farmer's Advocate":

I saw in your paper someone asking for a recipe for dyeing pelts and tanning. I have one I am sending you. I have tried the tan on a calf skin and a dog skin, and both proved very satisfactory. I have never tried the dye, but think it would be all right. We are well pleased with your paper, and think all farmers should take it.

WILLIE GARDENER.

Simcoe Co., Ont.

Following is the description sent us by our correspondent, reprinted substantially in full:

To tan skins conveniently, a fleshing beam is necessary. To make it, take a fine-grained hardwood slab, about 5 feet long and 10 to 15 inches wide, as in Fig. 2. Have the round side up, and put in two legs 2½ feet long and 1 foot from widest end, letting the other rest on the floor. Make the top surface smooth. A good fleshing knife, such as that seen in Fig. 1, may be made from an old drawing-knife or piece of scythe, by grinding the edge down to a face about a thirty-second of an inch. This will give two edges to work with by reversing.

Before tanning a skin, soak it well in a mixture made as follows: Take 4 gallons cold soft water, half a pint soft soap, half an ounce borax, half a pint salt, mix, and immerse the skins. If



Fig. 1.—Fleshing knife.
Fig. 2.—Fleshing beam.
Fig. 3.—Tub for soaking skins.

skins are to be tanned with the hair or wool on, add three-fourths of an ounce of sulphuric acid. Soak from 2 to 6 hours. After soaking, if the hair is to be removed, put the skins in a liquor composed of 5 gals. cold water, 4 quarts slaked lime, and 4 quarts hardwood ashes. Let soak in this from one to six days, until the hair can be easily removed. Then put skin on the fleshing beam and scrape well, taking off all particles of flesh with the fleshing knife. Now remove skin and wash thoroughly in cold water, and scrape off all surplus water with the knife.

Next, place skins in a tan liquor made as follows: To 8 quarts cold soft water add one-fourth of a pound of pulverized oxalic acid, and one quart salt. Dissolve well, then put in the skins, covering them well with the liquor. Leave light skins in this from 3 to 4 hours; heavy ones, such as calf skins, etc., should be left 48 or more hours, or until tanned through, which can be told by cutting on the neck, the thickest part of the skin.

If it is required to have the skin extra soft, the following liquid should be applied to the skin

after removing from the tan: One pint soft soap, 1 pint tanner's oil, or neat's-foot oil, 1 pint alcohol. Let dry in, then dampen with the mixture again to finish.

As all skins, when drying, full up or contract, it is necessary to stretch them in finishing. To do this, take the skin before it is thoroughly dried, and place it upon the beam over some yielding substance, or a sheep skin, flesh side up; then take the fleshing knife and carefully push the edges of the blade over it in all directions until it is stretched, soft and pliable.

Last of all, rub the fur well with a mixture made of equal parts bran and clean white sand or sawdust. Shake out, and the work is done.

To color fur or wool buff color, take equal parts pulverized, unslaked lime and litharge, mix to a thin paste with water, and apply with a brush. By using several coats, a brown tint is produced. To dye black, add a small quantity of ammonia and nitrate of silver.

To color orange on wool of sheep skins, wash out all grease from the wool, then take an ounce of picric acid to each skin; dissolve in soft, luke-warm water, enough to cover skin, and add alcohol or vinegar to set the color.

SEASONABLE HINTS FOR MARCH.

By John Fixter, Farm Superintendent, Macdonald College, Ste. Anne de Bellevue, Que.

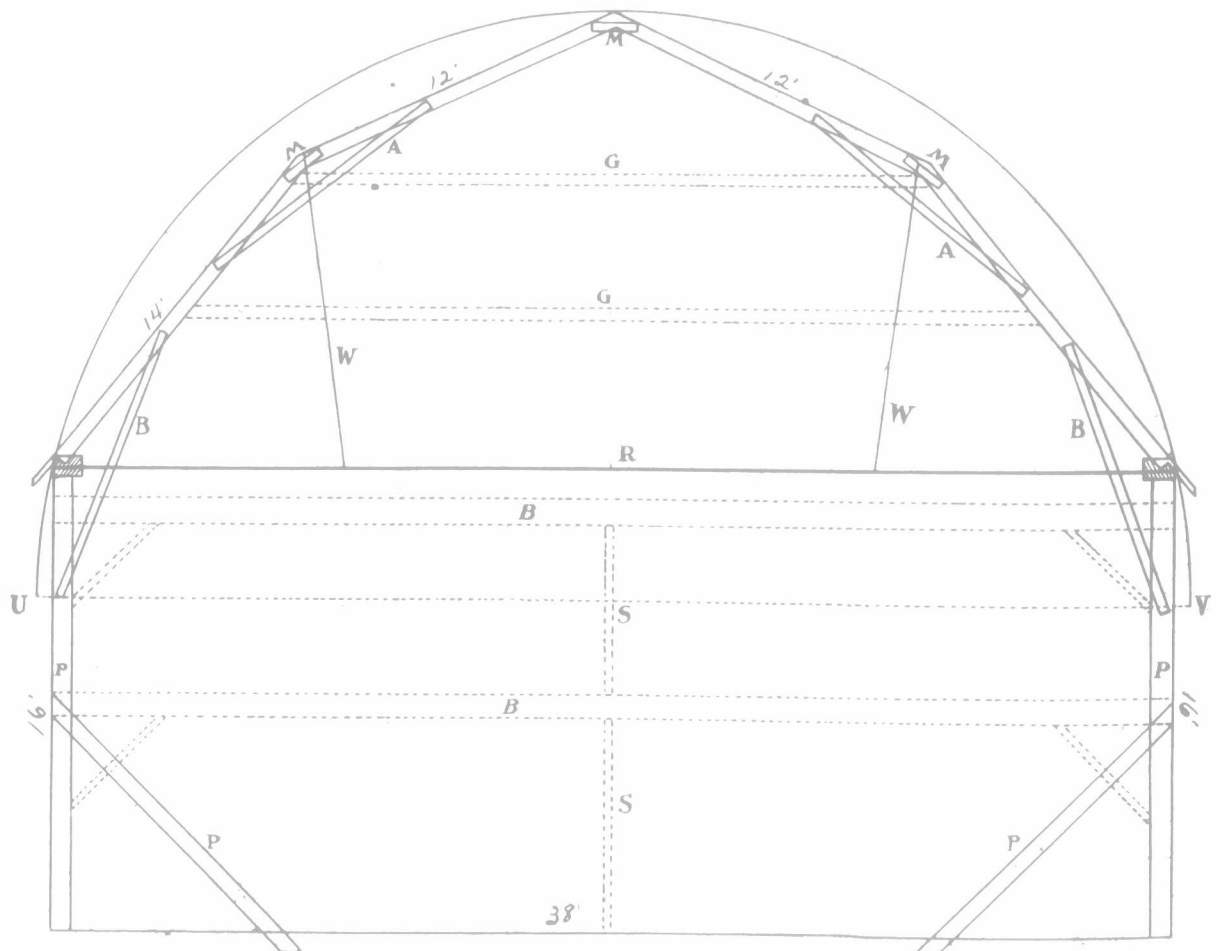
1. Clean the seed grain thoroughly; also, purchase root seeds and reclean them.
2. Examine all machinery.
3. Plows: See that the coulters, landsides and points are all right; also attach clevises and whiffletrees.
4. Harrows: See that the teeth are all in and sharpened; also attach whiffletrees.
5. Is the seed drill oiled and in perfect order?
6. Is the roller in perfect order?
7. Mowers and Binders: Sharpen all knives and guards; see if any other repairs are required.
8. Harness: See to washing, repairing and oiling thoroughly.
9. Remove all manure from buildings to fields where hoed crops are to be grown, and spread same as soon as snow is gone.
10. Break in any colts that are to be used the coming spring; get them well hardened before spring work begins.
11. See that plenty of firewood is cut and under cover convenient to the house, sufficient to last the whole year.
12. Repair all fences as soon as possible after frost is out of ground.

CANNOT BE TOO HIGHLY PRAISED.

I take pleasure in acknowledging receipt of premium knife, which is all you represented it to be. As for "The Farmer's Advocate," it cannot be too highly praised, and no progressive farmer should be without it. Thanking you for the knife, and wishing you every success.

Simcoe Co., Ont.

JOS. REID.



Cross Section of Mr. Good's Barn.

Cement-Concrete in Building: Its Nature and Uses.

Cement-concrete—what is it, how is it made, and how is it used? Another name for artificial rock or stone, the use of concrete has wrought one of the greatest revolutions of the past twenty-five years. Artificial stone has stood the test of twenty centuries, but modern cement-concrete is of comparatively recent use. It is inexpensive, because water and gravel are cheap, skilled labor is not required, and competition has brought down the price of cement. As wood became scarce and dear, builders began to appreciate the durability, economy, sanitary advantages and utility of the new substitute. Its use has created one of the greatest industries of modern times in Canada and the United States—the manufacture of cement, and latterly of concrete-making machinery. The uses to which it has been put include the construction of walls, floors, walks, pavements, culverts, bridges, building blocks, tiles, steps, posts, tanks, troughs, siloes, chimney caps, etc.

CONCRETE MATERIALS AND PROCESS.

By concrete is meant a mass hardened or grown together. If we rightly comprehend the nature of the process, we can better understand the kind of materials to be used, and the way to combine them. In the process of making concrete, three materials enter: Cement, the "aggregate" (sand, gravel, or broken stone), and water. A cement-concrete mass hardens in three ways: First, to some extent by drying out, or evaporation; second, by absorption of carbonic acid from the air, and hardening, as carbonate of lime (limestone); and third, the silicate of alumina in the cement and the water form the silicate of lime and alumina, which is the principal product. In the chemical action and crystallization which take place, the favoring conditions are sufficient warmth and water, fineness of material, intimate mixing and time. As the crystals form, the particles of sand or gravel are caught and bound together, forming the artificial stone or rock. The strength of good concrete is shown by the fact that, in cutting through a wall six months or a year old, the stones embedded will break before the bond. Hence, the final strength depends upon the perfection of crystallization and the admixture or "aggregate." Therefore, anything of a loamy or clayey nature, bits of wood, soft sandstone, slate, shale, etc., must be avoided. They break easily, and the cement will not adhere. The sand or gravel can be tested by rubbing it between the hands. If it discolors them badly, it is not good. A handful of good material dropped in a vessel of water will sink quickly to

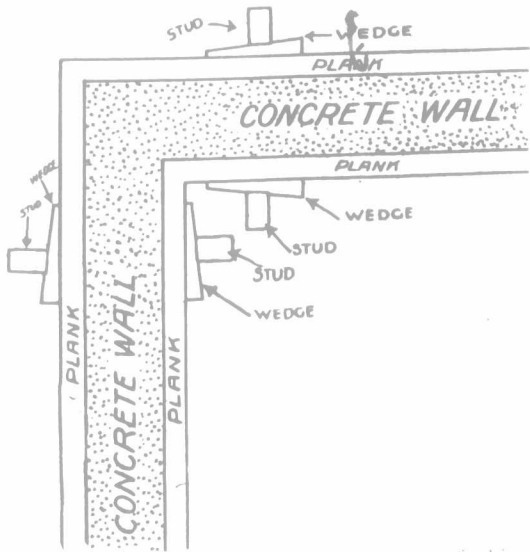


Fig. 1.—Corner Concrete Wall. Showing planking and supports. Two hovel wedges at each stud, one at top, other at bottom of plank.

the bottom without discoloring the water or showing a layer of mud. Then, the sand should be coarse, because it makes a stronger concrete, and takes less cement. The cement itself must be perfectly dry, smooth to the feel, and free from lumps. If stored, it should be in an absolutely dry place (never on the ground), otherwise it will take up moisture and solidify, losing strength.

MIXING.

In mixing the materials, first spread the requisite number of measures or shovelfuls of

gravel on the large, water-tight platform, and then throw on the proper proportion of cement. Mix dry thoroughly by turning over and over again with a shovel or hoe, until the whole shows a uniform color. The water is then added gradually in sufficient quantities to thoroughly wet the mass, working quickly with hoe or shovel as the water is poured or sprinkled on. For large jobs, machine mixers are in use. There must be enough water in the mass so that the process of crystallization will go on to completion, otherwise the wall or block, as the case may be, will prove spongy, and continue taking up moisture from the air or from the soil below, and, when cold weather comes, the alternate freezing and thawing will disintegrate or crumble the concrete. Dry, porous silo walls are, therefore, said to be the cause (through absorption of



Fig. 2.—Cow-stable Floor—End Section.

[Note.—The cut shows 20-inch bottom for gutter; 24 inches is better; and some prefer 20-inch bottom for manger.]

moisture) of dry, mouldy ensilage around the outside. If broken or cobble stones are to be added to the mixture, they should be well wetted first to remove dirt and provide them with moisture, or they may withdraw too much from the mixture. On the other hand, the mixture should not be too sloppy, or it may be weakened and run into pockets when laid. Once mixed, the concrete should immediately be placed in the floor, wall or mould, and be well packed or rammed, which is most essential, otherwise it will begin to "set" on the platform, and, when disturbed, will never harden so well again. Adding more water in the attempt to retemper or mix again will almost completely destroy it. Once laid, the wall or floor should not be disturbed until set hard. Cement-concrete work obviously should not be done in frosty weather, or in buildings where the frost can reach the mass before "setting." These general directions will apply to practically all classes of cement work.

CONSTRUCTION OF WALLS.

For ordinary barn walls, one foot thick is sufficient, but less will do for lighter structures. The foundation should invariably be dug below the frost line, and the footing or base a couple of inches wider than the wall it carries. Carry it down below soft spots, also, to avoid cracking in wall above. A mixture of one part Portland cement to twelve parts coarse gravel, with plenty of field stones bedded in and well tamped down, makes the foundation; and, for the wall above ground, one part Portland cement to 10 of good sharp gravel. The more broken or field stone bedded in, the less cement will be required. Do not bed in stone large enough to run all the way through the wall or to show at the surface. If the site is wet, put tile drains around the outside. For the mould or curbing, good smooth, two-inch planks, with strong, upright, two-inch scantlings, well braced, are used opposite each other, with strips nailed across top (See Fig. 1). Enough planking should be provided to carry two courses all round the building, if small and the work is

to be pushed; but if sufficiently large, so that by the time the end of the course is reached, the beginning will have set, then the wall can be laid truer with one set of planks than with one above another. Walls may be either plumb or battered.

HOLLOW WALLS.

As an improvement upon solid walls, to which objection is found on account of dampness, the solid monolith not affording sufficient insulation, hollow walls, tied with galvanized-iron strips, concrete piers or bricks connecting the two faces (3 or 4 inches thick each), are advised. An American cement expert suggests core boxes, tapered to prevent them slipping down, and resting on round iron rods (greased), which may be withdrawn before the mass "sets," or tie straps. The cores are made in sections about two feet high. In another style, the boxes are made collapsible, and run up full height of the wall, and, when finished, collapsed and lifted out. A simple plan for making a four-inch air-space in a foot wall, by using inch boards, separated two inches by strips 1 x 2 inches, was described in "The Farmer's Advocate" for March 5th. The strips have rounded edges, and project above boards, so they can be turned and pulled out. The ends of the boards next solid portions (corners, windows and doors) are cut on the slope to let them out, and notches are cut on lower side for the ties. In many places, large hollow bricks or hollow cement blocks are superseding the solid wall, which is used merely for the base or foundation.

STABLE FLOORS.

Loam or soft surface soil should be removed down to solid clay, and the firmer it is, the less foundation or first-coat material will be required. In many cases, where there is a hard, yellow sub-soil, the "finishing" coat of, say, two inches thick under animals and driveway, and even less in the feed passages, complete the floor. The ground should first be graded to suit the finished floor, say, according to Fig. 2. The feed alley is cemented, and usually level, and there is a six-inch drop to bottom of manger, which is about two feet wide. Then there is a two-inch drop to stall platform, which has a fall back to edge of manure drop of about 1 1/2 inches in 5 feet in case of cows, and 2 inches in case of horses or steers. The drop at manure gutter is 6 or 7 inches, the bottom of which slants up, say, 3 inches in 24 inches wide. From outer edge of gutter to wall,

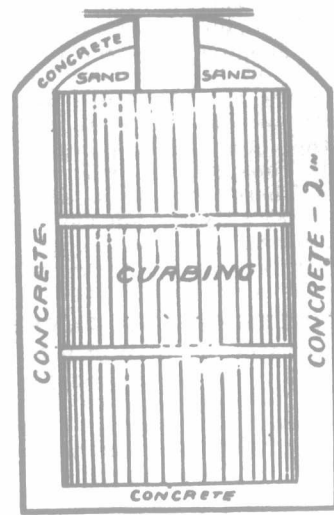


Fig. 3.—Round Concrete Cistern, with Manhole.

there is a rise of 1 or 2 inches in the passageway. This style of gutter keeps the manure water next the drop, and is easier to clean than when made like a square trough. If, because of soft ground, a bottom coat a few inches thick is deemed necessary, one part Portland cement to ten of good coarse gravel and cobblestones is sufficient. For the finishing coat of 1 1/2 or 2 inches, one part Portland cement to five, if the gravel is of good sharp quality, will make a strong floor, mixed as already described, well packed down with heavy iron tamp, using plaster-

er's steel trowel if a smooth surface is wanted, but a wooden float or trowel for a rougher finish, which is now preferred for cattle. If a second or finishing coat is used, it should follow right after the first, so that they will knit together. Two inches of good concrete, one of cement to five of gravel, on a hard bottom, is sufficient for stall floor, and one and a half inches is plenty for feed alleys. Straightedges, spirit-levels and lines are used in getting the proper grade. If any small stones are in the finishing coat, they should be tapped down out of sight, or the surface is liable to break up. From end to end of stable, the gutter bottom should be level, so that manure liquids will mix readily with solids and not run into an overflowing pool at the end. Don't make any holes or drains for the liquids to run away. They are worth their weight in gold, more or less. Some experts begin by laying the gutter bottom first, then the stall floor, next the driveway, and last the feed alley.

WALKS.

Walks, carriage steps, etc., out of doors, are laid on much the same plan as floors, except that it is advisable to have a foundation of coarse concrete, say, 1 cement to 12 gravel, with broken stones well tamped in, and the finishing coat 1 to 2. The finished surface should usually have a slight incline outwardly, to let water run off, and the walk should be so graded up that water will not gather about the foundation, to heave the walk out of position.

SILOES.

Though costing more at the outset, experience has demonstrated that the cement-concrete silo surpasses those made of wood in durability and in uniform keeping quality of the ensilage. Writing to "The Farmer's Advocate" in August, 1902, Fred H. A. Sharon, of Elgin Co., Ont., claimed to have built the first concrete-cement siloes in Canada in the spring of 1894, using Queenston cement. He was assisted in laying out the work by Isaac Usher, Sr., whose pioneer work was largely instrumental in the introduction of cement-concrete in farm structures and culverts throughout Canada, as our readers are well aware. Since then, more cement siloes have been erected every year. Various styles have been used, such as square or oblong, with inside corners rounded off by means of bent heavy sheet-iron; octagonal and round, the latter being preferred, and can be most expeditiously built by the use of sets of steel or wood rings 2½ ft. high each. The walls should be plumb inside, and battered on the outside, from 1 foot in thickness at bottom to 8 inches at top, for a silo 30 feet high, and, say, 12 feet in diameter inside, the capacity of which is about 80 tons, which it is estimated is sufficient to feed 20 cows 200 days, and should be filled from five or six acres of corn. In estimating the capacity of a silo of average dimensions, say 10 feet in diameter, by 24 feet in height, allow 50 cubic feet for a ton of ensilage. In a shallow silo it would take more than fifty feet to weigh a ton; in a large, deep silo, considerably less. One part Portland cement to from 8 to 12 of gravel and stone, according to the quality of the latter, are the usual proportions, the average being about 1 to 10; but it is safer to err on the strong side. Strength is given the walls by bedding in 5-16-inch round iron every 2½ feet, and the outside walls should be cement-washed, to give them a hard, smooth finish. The silo should have a two-inch concrete floor, and is better with a roof. Cement blocks are also used for silo walls, special machine patterns being devised by manufacturers for the purpose, and the hollow space relieves the trouble from frost. Good materials, plenty of water and thorough workmanship, from the foundation up, are especially necessary in silo construction, whether of blocks or solid wall. There should be several doors in silo wall, say 1½ x 2½ ft., on side next feed-room or passage, and, to preserve strength, there should be several feet of wall between these openings. The silo should be smoothly plastered inside.

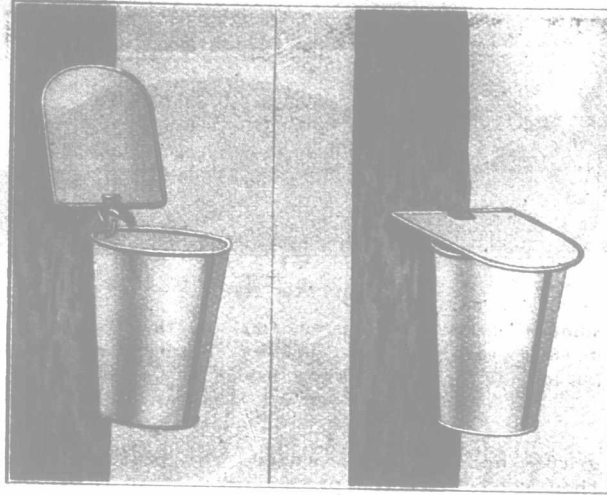
CISTERNS AND TANKS.

Fig. 3 illustrates one plan of making a cement-concrete cistern, with conical-shaped cover and manhole. In making the excavation, allow for the plank curbing, and, say, two or three inches concrete wall. When the concrete is thoroughly rammed in up to top of curbing, then lay on a plank platform with hole in center a couple of feet across, and boxed up to above ground. A barrel will answer the same purpose. Then, on the platform, and around the hole, build a cone-shaped mound of fine, wet sand, and over this put on the layer of concrete so that the bottom edge will rest on the perpendicular wall of the cistern. (The tops of wells should be similarly protected.) In about a week, the boxing and sand may be removed, and the bottom cemented. Plaster inside.

APPROACHES, CULVERTS AND BRIDGES.

Cement-concrete is rapidly displacing wood in the construction of culverts and bridges, the arched form giving great strength. Up to a couple of feet span, a flat top can be used alone, but over that, reinforcement with wire, rods or

metal in other forms is advised. For small streams crossing roads, cement tile are very generally used, but for larger creeks, regular cement culverts are built in. For wide culverts or bridges, the work should be done by experts, according to proper specifications, in order to secure the proper strength necessary to carry traction engines and safeguard the municipalities. To provide a waterway at the farm gateway, a very simple method is to make a semicircular curbing of the necessary length and diameter, lay over it say five or six inches of cement-concrete, one part Portland cement to five of gravel, and, when set, knock out the end supports of board and pull out the narrow planks forming the curb. Cover the cement arch with clay, and you have a permanent job.



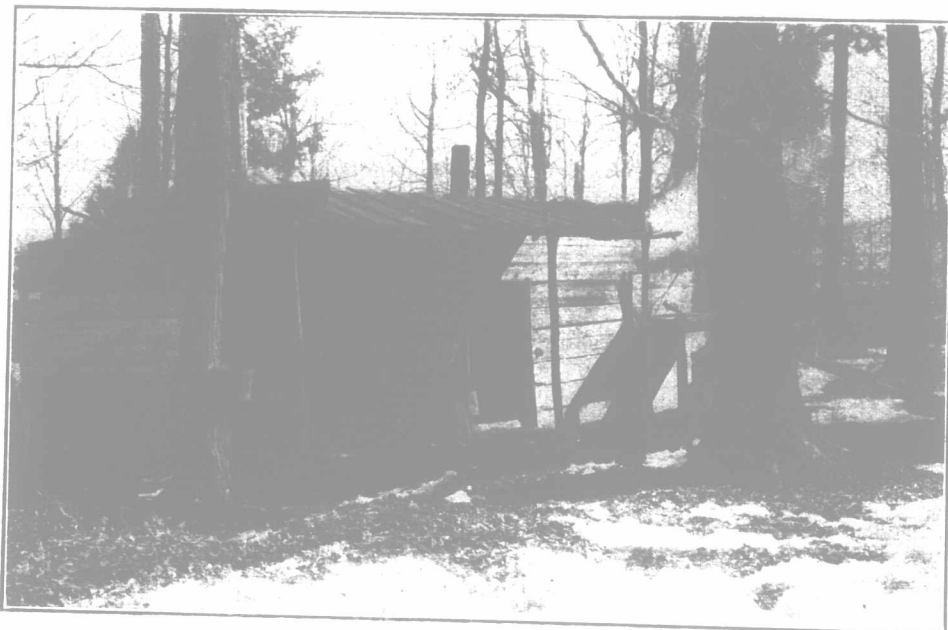
Modern Tin Sap Buckets.

FENCE POSTS.

Various styles of cement-concrete fence posts have been made, tapering from a 6 x 6-in. or a 4 x 4-in. bottom up to a 3 x 3-in. top, reinforced with iron bars or wires. For fastening the fence wires, staples or loops of wire are bedded in on the side, and in some cases a strip of pine board, through which bolts (heads in) are passed into the post. The moulds are dressed pine, 1½ in. thick, made in sets of five or six. Good cement concrete, 1 to 5, and quite moist, is recommended. When taken from the moulds, they should be kept damp for a week or ten days, and not used for a month. Two estimates before us represent the cost at from 25 to 30 cents per post.

WATER TANKS.

For use either inside or out of doors, where



"Sap's Running."

they need to be so built and protected as to prevent bursting by frost, nothing equals tanks or troughs of concrete. They may be made round, square or oblong. For the walls, a minimum thickness of 4 inches for a round 5 x 5-ft. tank, up to 15 inches for a 15-ft. tank, is suggested, and the proportions of cement to gravel about 1 to 5, finishing with a coat of cement wash inside and out. Reinforcing with barbed wire or iron rods will add strength to the walls, and walls flaring out at the top are less liable to burst with frost than if plumb.

HOLLOW BUILDING BLOCKS.

Hollow cement blocks are rapidly displacing bricks or cut stone for public buildings and structures for business purposes, and particularly as foundation walls for private residences, because of their solidity, handsome appearance, air space, and the ease with which they can be manufactured wherever coarse sand is available. They are

made in great variety of sizes and styles, in machines, several of which have been advertised in "The Farmer's Advocate." In all cases, full directions for use are given by the manufacturers. Good Portland cement and gravel, preferably from ½ to ¾ inches in diameter, containing sufficient clear, sharp sand to fill all the voids, mixed with water, are the materials required. For the facing, fine material, one part cement to two of sand, is advised, and for the body of the block, one to about four, is sometimes used, but the proportions vary with the quality of material. However, it is a great mistake to try to make a "cheap" block by stinting the cement. Thorough and accurate mixing are essential, a bottomless box, with handles on the end, being convenient for gravel, containing exactly enough for a bag of cement. It should be made sufficiently wet to pack well in the hand, using as much water as possible without causing the material to stick to the moulds. The facing cannot be made as wet as the body of the block. Pack the material thoroughly in the mould, putting in small quantities at a time. When taken from the moulds, leave the blocks on the pallets for at least 24 hours. They must be kept out of the sun, where they will not dry out too quickly, or the hardening will not be perfect. When removed from the pallets and piled, they should be sprinkled and kept moist in the shade for, say, eight days, and be made a month before using. In laying blocks, it is recommended that the blocks and course below be kept wet by sprinkling, and the standard specifications for block manufacturers require a soft mortar, one-half cement mortar and one-half lime mortar, made of fine sand, spread evenly and buttered on the ends.

QUANTITIES OF MATERIAL.

Hundreds of inquiries have reached "The Farmer's Advocate" asking how much materials will be required for a given wall or floor. In the first place, a barrel of cement contains about four cubic feet. The inexperienced might suppose that one barrel cement, three barrels of gravel and six barrels of broken stone would make ten barrels of concrete, but it will not, for the gravel fills up the open spaces between the stones, and the cement fills in the still finer spaces between the particles of gravel, so that the quantity of concrete would not greatly exceed that of the original broken stone. A leading Portland-cement authority gives this rule for a medium mixture, suitable for foundation walls, building walls, arches, floors, sidewalks, sewers, etc.: 1:2½:5; that is, 1 barrel or four bags (about 4 cubic ft.) cement, to 2½ barrels (9½ cubic feet) loose sand, to 5 barrels (19 cubic ft.) broken stone or coarse gravel. In Canada, experience indicates that 1 barrel of Portland cement will approximately build 35 cubic feet of wall, mixed in the proportions of 1

of cement to 10 of gravel and stone. Divide the cubic contents of the proposed wall by 35, and you will have the number of barrels of cement required. A barrel of Portland cement will lay approximately 80 square feet of floor, three inches thick, in the proportions of 1 of cement to 5 of gravel, or 120 square feet 2 inches thick. Then, to get the number of barrels of cement required for a floor, divide the number of square feet by 80, or 120, as the case may be. The cubic contents of wall or floor, divided by 128, will give the total number of cords of concrete required.

We shall be pleased to receive from readers descriptions of plans which differ from those described in the foregoing, and which, by actual experience, they would consider commendable.

THE BEST PREMIUM YET.

I beg to acknowledge, with very many thanks, the receipt of the premium knife, which I prize more highly than anything I have ever received as a premium. I have been a life-long subscriber to "The Farmer's Advocate," and like it very much. To say that the knife is a good one, is simply putting it very mild. R. B. MILLS, Elgin Co., Ont.

Permanent pasture for the rough, watered portions of the farm; alfalfa for the less steep, clay hillsides, and short rotation for the rest of the farm.

THE SWEETEST THING IN CANADA.

By Aubrey Fullerton.

The Canadian maple may be grandest in October, when it is gay with color, but it is sweetest in March and April, when the sugar sap is flowing.

There are not many Canadians, young or old, who do not relish a taste of maple sugar, which may very rightly be called our national sweetmeat. It is good, even when we buy it at the city stores; but, in the maple-woods, fresh from the trees and the sugaring-off kettle, it is a treat "once tasted, always remembered." If you have ever spent a day in the sugar-bush, the memory of it will stay with you long after much more important matters have been forgotten.

At the St. Louis Exposition, the last great world's fair, one of the most attractive features of the Canadian exhibit was a pavilion constructed of maple wood, and decorated with jars of syrup and cakes of sugar. In the center of the pavilion was a miniature sugar camp, with men and horses at work in a neatly-fenced grove of maples. A large placard on the side of the pavilion stated that Canada's annual output of maple sugar and syrup is nearly 18,000,000 pounds. The exhibit, with its tempting array of good things, was admired by thousands who, whatever else they might have thought about Canada, had not likely thought of it as a land of sweetness.

But we Canadians need no such demonstrations to convince us of the excellence of our native sugar, though perhaps we have not realized that so large a quantity of it was made each year. In some parts of Canada it is a very profitable industry, particularly in the Eastern Townships of Quebec; various parts of Ontario and Nova Scotia also produce large quantities.

Usually, in early March the sap of the maple tree begins to run, and continues till the warm days of late April bring out the buds. The best sugar weather is warm days following frosty nights; on such days the sap flows freely, and is of good quality. As it comes from the tree, the sap gives but little promise of its future lusciousness, for it is very much like sweetened water. It is the boiling that concentrates its strength and brings out its virtues.

A visit to a sugar camp, where the sap is being gathered and boiled, is, in the opinion of the young people, the greatest event of the year. There is the bewitching spirit of approaching spring in the air, besides the assurance of good things when the woods are reached.

A sugar-bush may range from a few hundred to two or three thousand trees, and these little forests of maple are beautiful places, even without their suggestiveness of sugar and syrup. There is usually some snow on the ground when sap-time begins; sometimes, indeed, the men are obliged, while collecting the sap, to travel from tree to tree on snowshoes. The sap-gathering is the first thing you will notice when you reach the sugar-woods. A "spile" is driven into the tree, and a bucket placed on the ground to receive the sap; or the bucket may hang from the spile, which is driven into the trunk a few feet from the ground. It is an odd sight—these buckets fastened to the trees, as if the great maples were leaking. But that is just what they are doing—leaking sweetness—and the important thing is to catch it. A full-grown tree will yield sap enough in one season to make from one and a half to two pounds of sugar.

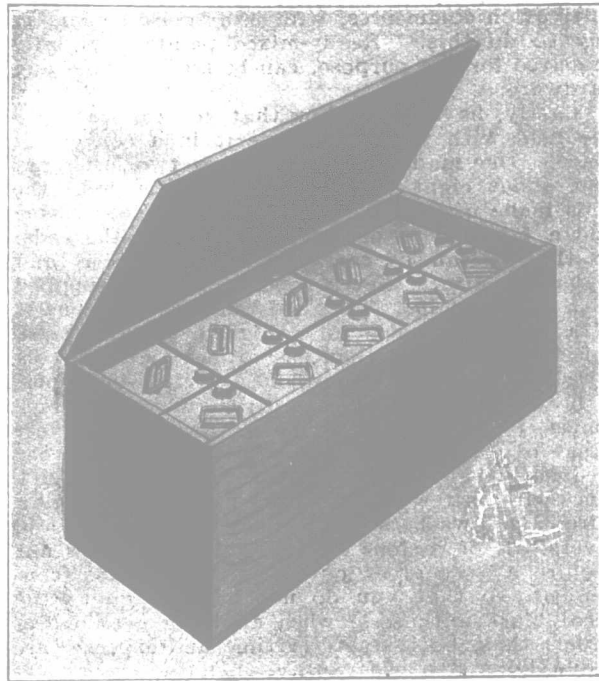
For a while you may be satisfied to linger about the trees and taste the sap as it has collected in the buckets, but you will soon go in search of more substantial delicacies at the sugar-house.

It is interesting, however, to follow the process of sugarmaking from its first stages, and, before there can be any sugar or syrup in the big kettles, the sap must be gathered from the trees. This was done in pioneer days by men afoot, carrying yokes on their shoulders, from the ends of which large pails were suspended. Into these was emptied the sap from the wooden troughs, used then instead of buckets. When all had been collected, it was taken to the sugar-house over none-too-easy footpaths. Nowadays, the sugarmakers usually drive sleds or wagons from tree to tree, thus collecting the sap not only more quickly, but more comfortably.

The boiling of the sap is done in large, flat pans or boilers, built into covered furnaces. In the smaller camps, brick arches are used, or sometimes open fires, over which deep kettles are hung. More scientific methods are, of course, in use to-day than formerly, but, by old or new, the same delicious results are obtained. As the sap boils, it thickens into a syrup, and at certain stages in the process it is transferred successively to other pans, then finally set aside to cool. Paired into variously-shaped moulds, it assumes the form in which we buy it, in fancy cakes, at the stores.

But this is how maple sweets taste their best. When the syrup has deepened in color until it has become like dull gold, spread it out on slightly packed snow, thus quickly cooling it. If it soaks into the snow, it is still too thin; but if it hard-

ens and leaves crisp, brittle strands along the edges, it is just right for eating. Now, you see the possibilities for good fun, don't you? Imagine a sugar party in the woods, or, for that matter, in the kitchen of some roomy farmhouse; a big boiler or kettle of syrup on the fire, and a dozen or more eager tasters gathered around, each with a panful of snow, waiting for the moment when the "sugaring-off" stage shall be reached; then, dipping out the golden syrup and cooling it, vying with each other for the most fantastic or best-shaped cakes; and finally the climax, the eating of it. In the sugarmaking districts, such parties are annual features, and sometimes there are sugar socials in the churches, which are, it is almost needless to say, always popular, for skillful sugar cooks can prepare a great variety of confections from the maple syrup, using it as the basis of the various delicacies.



Case of Syrup Cans Packed for Shipment.

Good sugarmaking is a process that demands care. The appliances may or may not be of the best, but the boiling and clarifying must be done to a certain exact degree—just so far, and no farther—for the best results.

The sugarmakers who look to their maple woods for business profits, receive usually ten cents a pound for sugar, and a dollar or a dollar and a quarter a gallon for syrup. There are many farmers, however, who aim merely at supplying enough for the use of their own families and of their friends. Generosity is one of the characteristics of the sugar-camp, and a free invitation is given to share its delights.

The manufactured article, as we find it in the



The Modern Way of Boiling Maple Sap.

stores—the syrup in cans, and the sugar in bars and cakes—is the next best approach to the home-made sweet. It finds a wide favor all over the Dominion, and even in England, where it is sometimes sent by the larger dealers.

Since the maple is one of Canada's national emblems, we may have the satisfaction of both enjoying its sweetness for its own sake, and knowing that other people as well as ourselves will recognize the value of the tree which gives

the finest of foliage in the summer, the rarest colors in the autumn, and the most delectable of sweets in the spring.

THE TRADE IN SMALL SEEDS.

To many farmers, clover seed at 25 cents per pound is almost prohibitive. Those farmers and seed dealers who stocked up last autumn were wise, as the price of seeds is on the upgrade. While the farmer who has to buy pays a long price, those who are fortunate enough to have some for sale are getting good prices. Many cases can be cited where farmers got \$12 to \$13 per bushel for their seed this year. It is true they were clean, pure lots. One man, I heard, had refused \$13.50 per bushel for his red-clover seed. This meets the criticism of a purchaser of seed, who thought the seedsmen were getting all the rake-off between the prices quoted in the market—about \$10.25 to \$10.50—and the retail price of \$15.00 per bushel.

The red-clover seed, on the whole, this year, is freer from noxious weed seeds than other years, but there is a larger amount of dead, dull, discolored and shrunken seeds in the samples. Alsike seed was above the average in size, color and purity. Alsike prices seem to be steadily advancing. The alfalfa crop in Ontario was light last year, and, as with the red clover, there was a lot of inferior seed in it. The price of that, too, will be high.

A good deal of seed is changing hands among farmers this year in localities where seeds were grown. The high prices paid has brought out about everything in sight, so that the markets are likely to be sold pretty bare again this year.

It will pay farmers who are fortunate enough this summer to have good clover fields to prepare them for the production of seed.

Very much could be done early in the spring to abate the buckhorn nuisance in seeds by going over the clover fields early and spudding out this weed. It shows up quite early, although the best time is a few days after mowing, or after stock are turned off the pasture field. A great deal can be done at small cost by farmers in weeding the crops of all small seeds in the field, and thus make a more salable article, for which apologies need not be made. It would also tend to cheapen the seed to those who have to buy.

Notwithstanding all the drawbacks, let us remember that clover is our best and cheapest soil builder, as well as one of our best foods for all classes of stock. Don't cut out the clover.

T. G. RAYNOR.

LIQUID MANURING IN SIAM.

Editor "The Farmer's Advocate":

Apropos of the various articles which have appeared from time to time, dealing with the waste of manure entailed by the manure heap being exposed to rain, perhaps the following notes may be of interest to your readers. A few years ago I was in charge of a cocoanut estate of 1,200 acres in Siam. We had about 100 cows and cart

bullocks, and the only method of manuring the cocoanut trees was by tying the cattle to the trees at night, two cows tied to one tree for three nights in succession. Afterwards, the manure was dug into the ground round the trees by Coolies.

By this system it took a very long time to manure all the trees on the estate, and entailed a lot of work tying up the cattle every night, and digging round the trees afterwards; also, the loss of cattle was very large from tigers, cheeters, panthers, etc. I have known twelve cart bullocks killed in three weeks.

To obviate this loss, and to economize labor, I erected a cattle shed, in the form of a hollow

square, about 200 feet square inside. The stalls were placed all around the square; roofed with thatch and floored with cement. The roof of the stalls drained inwards, and the floors also drained inwards, to an open drain running round the square. The floor of the square was of hard red earth, and in the center was a cement well or liquid-manure pit, connected to the stall drain by four open drains.

Every morning the stalls were swept out and

the manure thrown out into the open square, which soon became one big manure heap. The heavy tropical rains washed through this, and the resulting liquid was carried to the well by the various open drains.

The cattle shed was situated on a hill in the center of the coconut plantations; the coconut trees were all planted in rows from 25 to 30 feet apart. For manuring the trees on the sloping ground in the vicinity of the cattle shed, shallow open drains were scraped out with a hoe between the trees; a temporary wooden gutter led from the well to these drains, and a Coolie pumped the liquid manure from the well into the wooden gutter, from which it flowed into the open drains between the trees. These drains were occasionally blocked with a clod of earth to flood the liquid manure over the roots on each side of the drain.

The liquid manure was carried to the more distant parts of the estate by galvanized-iron pipes, and distributed by means of stand-pipes, which were placed at points where the natural slope of the ground could be best taken advantage of.

This system only entailed the use of two men, thus saving a lot of labor, and reduced the loss of cattle. I have used the same scheme for an orchard and market garden, applying the liquid manure through a hose.

BASIL O. ROBERTS.

New Westminster, B. C.

HINTS ON MACHINERY FOR SPRING.

Editor "The Farmer's Advocate":

As the busy spring season is approaching, a few of these hints may be somewhat out of season, but the bringing to mind of the same will do no harm for future occasions.

The (friendly?) agents of the various companies are trying to secure another harvest for themselves by trying to replace their respective makes of machine for those which are slightly worn, or those which they claim to be of inferior pattern.

Dismiss the agents. Carefully look over your machine, and when you see that it will not render profitable service for another season, go to the different machine shops, consider the merits and demerits of the different makes, and, if possible, get your neighbors' opinions on those they have tried. In this way you can purchase to better advantage, even though it is after the season, or one may be picked up at an auction sale at an easy "bid."

Sometimes agents make out that they cannot secure the parts asked for, so that they can have a chance to sell one of their machines. In such a case, write to the company and ask. If this fails, try to secure one off an old one that is out of use, or replace it, if possible, with one made of good tough hardwood, if space and the call for strain will permit, as the wearing qualities will be almost equal, and the cost a comparative trifle (the writer had a casting replaced on his binder six or seven years ago by a piece of maple, which has given good satisfaction, and is yet quite good).

If bolts are missing, or their place taken by wire, etc., get them; they are cheaper than new outfits. Put them in, and see that they and all others are tight, and kept tight. Some may be difficult to tighten if rusted; put on some oil or coal oil above and below the nut. Then, too, the head may be a round, and also the shank; square the head off by hammering on a flat, hard surface, or cold-chisel the sides off to afford a purchase for a wrench, while you turn the nut with the other.

All woodwork can be replaced at a modest cost, particularly if the farmer is in any way handy with tools. All that he requires is a cross-cut and rip saw, a square, rule, hammer, plane, a brace and a set of bits, a chisel or two and a pencil. Such pieces as shafts, tongues, plow handles, rake beams, etc., may be made at any planing factory or such place. Insist on having wood that is clear, straight and tough, of some good kind of hardwood, viz., rock elm, oak, white ash—something that will not be likely to warp. Paint well, and bolt in place securely.

When the mouldboards of plows become rusty (due to neglect of coating them with some rust preventive), remove the "rough" with some coarse sandpaper or emery-cloth, and then polish with a finer quality, or bath-brick, and oil well. The first few furrows will not be pushed aside, in place of being properly turned, thus making lighter work for the horses.

The bearings should be carefully washed and kept clean. Open up the oil holes to them, and inject coal oil to free the "dirt," the old oil has become dried up and hard. They have a very short life if not properly cared for, but usually being very well made in the first place, and rarely well taken care of. Their work is of a character that it is difficult to keep them in good condition, for the dust, etc., is continually working into them. Further, the manufacturers do not supply them with adequate

means to prevent the ingress of such destructive elements. Where oil-cups are provided, take some cotton-waste and fill up the cup with it, and then oil. This prevents much of the grit from gaining entrance to the bearing, besides insuring more moderate lubrication, by preventing all the oil running in rapidly, and can be readily replaced by a clean supply when the occasion demands. Where the capacity for oil is limited, more frequent oiling must be resorted to. Leather can be used to good advantage for protecting oil-cups in exposed places.

Reduce both friction and play as much as possible; they both waste power and hasten the wearing-out of the machine.

Painting is seldom practiced by farmers; many, in fact, seem to think it a waste of both time and material. It not only improves the appearance, but helps greatly to prolong the life of the machine, by resisting the action of the weather and atmosphere. The warm spring days, before cultivation commences, will be as good a time as any to do this. Ready-mixed paints, especially prepared for the purpose, can be secured from any hardware.

Lastly, have a tool-box that you can carry to the field with you, and leave it in a convenient place. One made of half-inch pine, two feet long, and about eight inches square at the end, the ends made of inch material; have a close cover, and a $\frac{1}{2}$ -inch rope or strap attached to the ends, so that it can be carried on the shoulder and under the arm. Never depend on tools supplied with the machine. A good outfit would consist of a monkey-wrench, an alligator-wrench, cold-chisel, screwdriver, punches; a flat, a three-cornered, and a rat-tail or round file, eight-inch ones; a brace and some twist drills will not come amiss— $\frac{1}{2}$ -in., $\frac{3}{8}$ -in., $\frac{1}{4}$ -in., $\frac{3}{16}$ -in., would be a fair range of sizes needed most (but they are not very frequently called for); wire pincers; some black fence-wire; screw-nails; bolts, nuts strung on a wire, also washers the same way; nails and rivets, all of various sizes. This outfit does not require a very great outlay, and is always convenient, so that you do not have to go to the local blacksmith shop when anything gets out of order; thus, both waste of time and expense are reduced.

The real farmer is ingenious—has to be—and if more would only supply themselves with the above-mentioned outfit, or a few more tools, by way of convenience, he could do a surprisingly large amount of repairing in the field. Try it, and many, very many, other things will suggest themselves when it comes to actual practice.

Huron Co., Ont.

E. V. L.

THE DAIRY.

THE CREAM-GATHERING CREAMERY.

(Address by Prof. H. H. Dean at Western Dairymen's Convention, Woodstock, January, 1908.)

ALLEGORICAL.

It is related of Phaeton, son of Sol, who got leave to drive the Chariot of the Sun for one day, that his father (the sun) admonished him somewhat as follows: "Do not ascend too high, or you will burn the heavenly mansions; do not descend too low, or you will reduce the earth to ashes. Do not drive to the right, or you will meet with the constellation of the Serpent; avoid going too much to the left, or you will fall in with that of the Altar. Keep in the middle." In spite of these directions, Phaeton, by his unskillful driving, upset the chariot, setting heaven and earth on fire, and was hurled by a thunder-bolt from Jupiter into the River Po. Mythology further tells us that from the tears of his sisters amber was created.

While we do not anticipate, on the present occasion, any such calamity as befell the son of Helios, a speaker who appears year after year before this august assembly of the dairymen of Western Ontario is in great danger of upsetting the dairy chariot, or of running into one of the great constellations which hover along the milky way. However, with your permission, Mr. Chairman, I shall try to control the steeds of Fact and Fancy, Achievement and Imagination in such a way that as little damage and as much good as possible shall be accomplished during our half-hour drive in the dairy chariot along the milky way of imagination, but the creamery and cheesery road of hard fact.

Sometimes we are able to obtain a better view of ourselves and of our subject by contrast than in any other way. We shall, therefore, treat of the subject in hand by contrasting the butter and cheese business as a whole; then, in particular, with reference to patrons, makers, factories and products.

CHEESE AN ECONOMICAL FOOD.

Taken as a whole, the cheeseries of the Province seem to have flourished better than have the buttereries. This is largely due to the fact that the former have been able to pay higher prices for

milk than have the creameries. This, too, rests upon a commercial fact, viz., that cheese contains more nutritive material than does butter. In the process of cheesemaking, in addition to the water of milk, which probably has at least a dietetic value, two of the chief compounds of food value in milk, viz., fat and casein, are made into the substance known commercially as cheese. There are also other constituents of milk found in cheese in minor quantities. Cheese may be considered as the chief dairy food of the working man, as it furnishes material for building muscle, as well as material for heat and energy.

BUTTER SOMEWHAT OF A LUXURY.

Butter, on the other hand, is largely a fuel food; i. e., it furnishes material for heat and energy, but does not supply muscle-forming constituents. To a certain extent, butter is a luxury for the workingman. When it becomes too high in price, the economical housewife with limited means tries to get a substitute, such as "oleo" (in some countries), fat meat, gravy, drippings, etc. Because of these facts, the market must always be more limited in large populations for butter than for cheese. The consumer may not understand much about the chemistry of foods, but he or she knows that substitutes for butter are more easily and cheaply obtained than are substitutes for cheese and milk.

BUTTERMAKING AND SOIL FERTILITY.

From a purely commercial-food viewpoint, it would seem as if the cheese business is likely to be more stable than is the butter trade. On the other hand, we need to consider the effects of these two branches of dairying on soil fertility, which, after all, is the basis of agricultural prosperity. Byron said, "As the soil is, so is the heart of man." On thin, worn-out soils, the butter business is undoubtedly the best form of dairying. Many sections of the Province are carrying on the cheese trade at a great sacrifice of soil fertility. The natural conditions are much more favorable for buttermaking. It would be wise if such districts would confine their efforts entirely to selling cream or butter, and allow the cheese to be produced on the richer clay lands, such as abound in Oxford County. Many farmers on light, thin soils are sacrificing future prosperity for a present gain. How hardly shall they that impoverish the soil dwell in happiness and comfort on the earth or inherit the future kingdom! Conditions of soil and roads, methods of farming, and inclination of the people, ought to be strong factors in deciding whether cheese or butter shall be manufactured in a district. Where the soil is light, and the roads not good, especially where the people are inclined to make a strong feature of other lines of live-stock besides pure dairy stock, the creamery is undoubtedly the best form of dairying to follow. On the other hand, where the soil is rich, the roads fairly good, and the people are inclined to specialize in dairy stock, then the cheese business is likely to be most profitable to the farmers, and to all concerned.

THE FUTURE OF OUR EXPORT DAIRY BUSINESS.

Before leaving this general question, we should like to call attention to the following item in a leading Canadian trade journal of recent date: "With a big decrease of 294,613 boxes of cheese and 193,734 boxes of butter in our exports of this season to date, the question may well be asked if our export trade in dairy products is not on the road to final extinction, similar to the change in the same direction as that which has taken place in the United States in its butter and cheese exports?" After speaking of the fact that it is difficult to account for this decrease in dairy exports, the article concludes: "Surely we cannot afford to dispense with an export trade that has brought the farmers of this country a revenue of \$23,000,000 to \$26,000,000 a year."

The foregoing comments should cause all those connected with the dairy business to stop and consider very carefully what should be done in order to stop this progress to "final extinction." We may well ask ourselves if the farmer, the cheesemaker and the buttermaker are getting their fair share of the profits in the business. Have the workers been having "a square deal"? Has there been an undue share of the profits diverted into illegitimate channels? Why are many of the best cheese and butter makers leaving the business? What is to become of the business when the making is left largely in the hands of inexperienced men? These are questions which must be answered, and conditions which must be changed, if we are to continue the export dairy trade along profitable lines.

COWS FOR CHEESE OR BUTTER.

Patrons of both must have good cows in order to produce milk or cream profitably. For the creamery, we need cows which will produce from 300 pounds to 500 pounds or more of butter annually. For the cheese factory, we need cows producing from 10,000 to 20,000 pounds milk or

1,000 to 2,000 pounds cheese annually. A leading American dairy journal said, recently, regarding the new Hart casein test, that it promised to do for cheesemaking what the Babcock test had done for buttermaking, in developing a special butter cow, giving milk with a high percentage of fat. The writer goes on to say that he sees no reason why a special cheese cow may not be developed; i. e., a cow which gives milk containing a relatively high percentage of casein. We are pleased that the position we took some fifteen years ago, that milk for cheesemaking should be paid for on a different basis from that which is adopted for the payment of milk for buttermaking, is now being recognized as the correct one.

UNFAIR SYSTEM OF PAYING FOR MILK AT CHEESE FACTORIES.

At present, patrons of cheeseries are at a disadvantage, as compared with patrons of creameries, in the matter of a just system of dividing proceeds from sales of products. Almost invariably, creamery patrons are paid according to the butter value of milk or cream, while patrons of cheese factories are paid chiefly according to a system which places a premium on dishonesty, or else are paid according to a plan which places too great a premium on but one milk constituent, viz., the fat. It is well known that both fat and casein of milk are essential in the manufacture of cheese, and both these constituents should be recognized in any system adopted for paying patrons of cheeseries. It is little wonder that some of the best patrons of cheese factories have withdrawn their support from an institution which has for its motto, "Every man for himself, and the devil take the hindmost." We welcome the advent of a test which enables a person to ascertain the percentage of casein in milk quickly and accurately.

SKIM MILK THREE OR FOUR TIMES AS VALUABLE AS WHEY.

The patrons of creameries have an advantage over patrons of cheeseries in that the by-product (skim milk) is a more valuable food for stock than is the by-product (whey) from cheeseries. As the importance of live-stock interests grows, the importance of skim milk for young stock will be more appreciated. The relative food values of skim milk and whey is probably 4 or 5 to 1; i. e., if whey be worth five cents per hundred pounds for feeding purposes, then skim milk will be worth 20 to 25 cents per 100 pounds. Some would place whey as being worth not more than one-third the value of skim milk.

HEATING THE BY-PRODUCT AT CO-OPERATIVE FACTORIES.

Wherever these by-products are the result of mixing milk from various farms in the process of manufacture, it is very important that the whey, skim milk and buttermilk shall be pasteurized before returning to the farm, in order to prevent the spread of bad flavors, but more particularly to prevent the spread of disease. The heating of whey, etc., to 160 to 165 degrees F. will destroy most of the bacteria found in milk. Especially is this true when the heating is continued for one-half hour or more.

GRADING OF CREAM.

As a rule, patrons of cheeseries supply better raw material than do patrons of creameries, more particularly patrons of what are known as cream-gathering creameries. Poor raw material is the weakest part of our buttermaking industry. How to get an improvement, is one of the greatest questions confronting our creamerymen. Probably the most effective plan yet devised is to grade the cream, and pay a price according to the quality or grade. Not more than two or three grades should be made, and for each grade there should be a difference of one to two cents per pound fat or butter.

For first grade, we would suggest a standard somewhat as follows:

1. Cream must be sweet, clean-flavored, and test not less than 25 per cent. fat.
2. It must be delivered in individual cans not less than three times a week.

Second-grade cream would be all cream which could not be graded as first. In case a third grade were deemed necessary, the advisability of which we very much doubt, all thin, sour cream, of poor flavor, should be put in this class, but it would be better not to accept such at all.

From our own practical experience, we should judge it impossible, or nearly so, to successfully carry out any system of grading cream unless all the creameries in the district will adopt the same method. Co-operation, not competition, is essential in order to improve the quality of the raw material furnished to our creameries.

PATRONS SHOULD PROVIDE ICE.

One other point. It would be advisable for patrons of both cheeseries and creameries to provide a supply of ice, but for those sending cream to our creameries, it is almost essential that they have a large supply of ice for cooling cream. Now is the time to lay up a store for next summer's use. Provide about one ton of ice for each cow

you expect to milk next summer. This need not cost over \$1.00 per ton, or \$10.00 for ten cows. It will prove a profitable investment for all patrons.

MAKERS CONTRASTED.

We are aware that "comparisons are odorous," but, at the risk of injuring some person's feelings, we should like to contrast the men now responsible for the making of cheese and butter.

A few years ago, possibly at the present time, the cheesemakers of Western Ontario would compare very favorably, as a class, with any body of men belonging to similar trades or professions. There remain still a number of excellent men in charge of our cheese factories, but many of the best men have left or are leaving the business. Then, again, the younger men do not seem to be qualifying for the responsible position of manager of a factory. About fifteen years ago, when the dairy schools were established, they were crowded with cheesemakers anxious to learn the latest and best methods. Some of our best men went to the United States before there were any dairy schools in Canada. At this time there were very few buttermakers at the dairy schools, other than those who were making butter in cheese factories during the winter.

What is the condition to-day? At our own school, in connection with the Ontario Agricultural College, the buttermakers outnumber the cheesemakers, yet we have probably ten times the number of men engaged in the manufacture of cheese as compared with buttermakers. Who among the cheesemakers are preparing themselves to take the place of men like Adam Bell, "Billie" Bothwell, George Brodie, The Travis Boys, and "Tom" Grieve, the Boyes Boys, and others who might be named—men who fitted themselves for their work in the best way possible? These men, in the natural course of events, must soon pass off the stage of action. What will become of the great Canadian cheese industry if the coming generation do not think it worth while to obtain the best possible training in order to fit them for their life's work? These are serious questions for the association to consider.

MAKERS DESERVE MORE PAY.

We are free to say that the men engaged in the actual making of our dairy products are not sufficiently remunerated for their long hours and heavy work. As regards the work of the two classes, we may say that buttermaking is undoubtedly lighter, pleasanter, and less nerve-racking than is cheesemaking. Cheesemaking requires more muscle, more skill, and longer hours; consequently, the cheesemakers should receive higher pay. Both deserve more pay than they receive at present, but, if any difference is made, it should be in favor of the cheesemaker. But in no case should a second or third-class man expect to receive first-class pay. A man should be rewarded according to his skill, knowledge and honesty, and faithfulness to duty.

FACTORIES.

I need say very little by way of contrasting the buildings in which butter and cheese are made, as this is fully dealt with in the report of the Chief Instructor. There are two points which need special emphasis, viz., that new buildings should be constructed, with a view to controlling the temperature, having good ventilation, durability and convenience; and, secondly, that dairy buildings need constant repairing, else they soon become unsanitary. In addition, provision must be made for the proper disposal of the sewage. As this subject is also fully dealt with elsewhere, we need not dwell upon it.

While nearly all are agreed that the change from the whole-milk to the cream-gathering form of creamery has not been in the best interests of improving the quality of our butter, the cream-gathering creamery is here to stay, for a time, at least, and we may as well plan our buildings accordingly. Where the whole milk is delivered at the creamery or cheesery, we must of necessity have a much larger building than where cream only is delivered; hence, in the latter case, a portion of the funds devoted to a larger building should be used in improving the durability, convenience and sanitary condition. We are bound to say we have not yet seen what might be called a model creamery or cheesery.

FINISHED PRODUCTS.

We have already pointed out the fact that cheese has a higher nutritive value as a food than has butter, and that it is more likely to be a food called for in larger quantities by the British workingman and purchased by the economical housewife who has limited means for the purchase of food. In Canada, however, cheese is regarded more as a luxury, a dessert food, etc., while butter is the more staple article. As our foreign population increases, we shall probably see a change in this respect, because of the fact that Europeans are cheese-eaters.

We have this suggestion to offer the cheesemakers, that they stir their curd less, so as to retain more of the milk solids. A New Zealand cheesemaker, on this point, says: "The toil of

the cheesemaker is enough, without adding this infernal device to break his back and give him cramps in his stomach." From our experiments conducted on this point, we feel satisfied that Canadian cheesemakers are making for themselves unnecessary labor and losing valuable cheesemaking material by so much stirring of the curds. If the work previous to the removal of the whey has been properly done, it is not necessary to stir curds so much as is commonly advised. Make a few experiments, and note results.

We have another suggestion. Many makers mature their curds so much that much unnecessary loss of fat occurs. Again, we would say that, if the work previous to salting has been properly done, it is not necessary to wait four, five or six hours after dipping before the curds may be salted.

By modifying the method of making cheese on these two points, we feel that a finished product will result which will better suit consumers, and one which will better compete with European cheese; besides, it is less laborious. We do not advise any radical changes in methods of making, but throw out these hints, to be followed so far as practicable. Cheese and butter makers need to study the wants of consumers. The middlemen are not always safe guides as to what the people want in the way of foods.

UNSALTED BUTTER FOR BRITISH MARKETS.

If we are to export butter, it would seem that we should turn our attention almost wholly to the making of unsalted butter. A leading firm of London, Eng., to whom we made experimental shipments of butter during 1906 and 1907, in reply to our inquiry as to whether or not the addition of salt to butter for London market had a deleterious effect, say, in a recent communication: "On a market in which the supply of salted and unsalted is about equal to the demand for each, the difference to the value between an unsalted butter, and the same butter, to which say two per cent. of best salt has been added, would be about two shillings per cwt. The risk with unsalted is owing to there being considerably less buyers for saltless than for salted, and every now and again the supply of saltless is in excess of the demand, and has to be sold at a considerable discount on the price of salted."

In our own practical experience in sending butter to London, Eng., market during the past two seasons, we have received about two shillings per cwt. more for the unsalted, as compared with a similar lot salted. In some cases, boxes of butter which were unsalted sold for two shillings per cwt. more than did boxes out of the same churning which were salted.

In most of the unsalted butter some form of a preservative was used. We found that common powdered borax gave as good results as did any of the more expensive commercial preservatives. The quality of preservative used varied from one quarter to one-half of one per cent.; i. e., to one hundred pounds butter we added from one-quarter to one-half pound of borax, either in dry form or dissolved in water; sometimes a preservative was mixed with salt. Full details of these experiments will be found in the annual report of the Ontario Agricultural College for 1907.

In conclusion, let us do what we can to improve the dairy products of 1908, and more particularly the products from our creamery.

INSIST ON A MARKED CHEQUE.

Editor "The Farmer's Advocate":

I am pleased that the subject of paying for cheese at the time of shipment has been brought so nicely before the readers of your valuable paper. I am fully satisfied, in my own mind, that, if the buyers wanted to, they would have no trouble whatever in arranging with the several banks so they could pay by check at the time of shipment. But they have got into the way of paying when they get ready, and do not want to give up that privilege.

I would like to see the following plan carried out on our cheese market, and I think it would be better for everyone concerned, in the end.

First.—All salesmen to sell on the board and on the board only.

Second.—Sell only to reliable firms, not the firms that have the money only, but those who employ straight, honest men to buy, inspect and ship the cheese.

Third.—That the shipper receives a marked check (good, not to exceed) to the amount delivered, at the time and place of shipment.

Middlesex Co., Ont. SALESMAN.

PLEASED WITH THE BIBLE.

I beg to acknowledge receipt of premium Bible, for securing two new subscribers for the "Farmer's Advocate." I am well pleased with it. I have taken "The Farmer's Advocate" for a number of years, and can recommend it to farmers who want to keep up to the times.

Huron Co., Ont. AMOS FISHER.

WHEY BUTTER—COOL CURING-ROOM IN CHEESE FACTORY.

1. Do you think it is a satisfactory and paying industry for the patrons and manufacturer to put in a plant for the making of whey butter?
2. The factory has a capacity of from 40 to 45 cheese a day.
3. What is the usual percentage to the maker for making whey butter?
4. Is there as much strength in the whey for feeding hogs when butter is made from it?
5. Any information regarding whey butter would be thankfully received through the columns of your valuable paper.
6. Is a cold-storage room in a cheese factory of very great value?
7. If so, about how much to the pound of cheese?
8. Can you give full information as to the proper way a cold-storage room should be built? Addington Co., Ont. M. V. LAKE.

1. The first consideration in the manufacture of whey butter is quality. If it will stand storage and come out with a reasonably clean flavor, it might be all right, but what looks dangerous to us is that large quantities of inferior butter may be thrown on the market. Some of the Montreal exporters claim that whey butter goes off in flavor very rapidly. If this is true, then whey butter would have to be consumed in a very short time after it was made, or heavy losses would occur from attempting to store such butter. The future of the business must be taken into consideration. It has also been said that making whey butter would tend to influence some makers in not being as careful as they might be in handling the curds, since, the more roughly curds are handled, the greater the loss of fat in the whey. Again, it has been said that, in the anxiety to skim all the whey, it might be left on the curd a little too long, provided the apparatus were not properly arranged, and thus have the tendency to make acid cheese. Again, it is also claimed by some that it will put temptation in the way of some makers to skim small quantities of milk, adding this cream to the cream of the whey for the purpose of increasing the profits, and exposing them to the stringent law regarding the removal of any fat from milk which is to be made into cheese. However, the latter is hardly likely to occur, since the average cheesemaker is considered square and honest. Profits will depend on the ruling price of finest butter and what can be secured for whey butter. The average loss of fat in the whey in cheesemaking will be from about two-tenths of one per cent. to three-tenths of one per cent. One thousand pounds of whey will then make from 2½ to 3¼ pounds of butter, depending upon the loss of fat in the whey.

2. A factory making forty cheese per day, having an average weight of 75 pounds, would take in about 32,250 pounds of milk, and would make about 3,000 pounds of cheese, provided the yield was 10.75 pounds milk to one pound cheese. Subtracting the pounds of cheese from the pounds of milk, it would leave about 29,000 pounds of whey to be skimmed. This, with an average loss of fat of .25 per cent., would yield about 75 to 80 pounds of butter, depending on the amount of moisture which the butter would contain; 75 pounds of butter, at 20 cents per pound, would equal \$15. The expenses for making this butter would consist in the cost of fuel, for skimming, labor, salt, packages, marketing, interest on plant, and repairs. It would take two separators, with a capacity of 3,500 pounds per hour, at least four hours to skim this amount of whey. Ice, also, would be required for cooling the cream and refrigerating the butter. A small refrigerator would also be a necessity.

3. The percentage which the maker would get for making this butter would depend entirely on his agreement with the patrons.

4. As to value of whey for feeding hogs, a hog is obliged to drink 100 pounds of whey before he takes into his stomach .25 per cent. to .3 per cent. of butter-fat; and, to feed a hog a pound of butter-fat in whey, the hog would have to drink about 400 to 500 pounds of whey. This does not look as if the whey would be relieved of very much feeding value by skimming, although it would depend on the value placed on this small amount of fat for feeding. It is generally conceded that a small amount of fat, either in whey or skim milk, is of relatively more value per pound than is a larger proportion, although, perhaps, the residuum of fat in whey which is used chiefly for hog-feeding would not be so valuable as the same percentage would be in skim milk employed for calf-feeding. Roughly speaking, we should say that one-third to half the value of the whey butter made would represent loss to patrons in the feeding value of the whey; but, as the loss to each patron is slight, the tendency is to overlook it, just as 5 cents collected from each of twenty men is more readily obtained than \$1.00 collected from a single person. Nevertheless, whether perceived or not, such loss exists, and should not be ignored by the patrons.

6. A cool-curing room (not cold storage) in a cheese factory is of great value. Most cheese, if exposed to ordinary curing-room temperatures for more than three days in midsummer, will suffer permanent injury to quality which no future cold-storing will correct. The number of cool-cured cheese are increasing, and are having a marked effect in increasing the market prices and in encouraging consumption.

What Cool-curing Does.—It delays the curing not more than a week or ten days; it effects a direct gain to the patrons by saving from 1 to 1½ per cent. in the shrinkage of cheese during the curing period, or about one-sixth cent per pound of cheese, if cheese is worth 13 cents per pound. It prevents the heated flavor and mealy texture of ordinary-cured cheese in hot weather, and avoids one of the chief defects in a large number of our hot-weather cheese. It helps to prevent the development of bad flavors. It protects the cheesemaker, in some measure, from unjust claims arising from causes over which he has no control, particularly that of heated cheese. It develops the rich "nutty" flavor which is sought after in fancy cheese.

8. Full and entire information as to the proper way of building a cheese-factory cool-curing room will be found in the Dairy Commissioner's Report for 1906, and if the Dairy Commissioner, Mr. J. A. Ruddick, Ottawa, is communicated with, he would only be too pleased to furnish plans and all information regarding the building of cool-curing rooms.

CO-OPERATIVE SHIPMENT OF CHEESE.

Editor "The Farmer's Advocate":

Every salesman of a cheese factory should acquaint himself monthly, at least, with the financial rating of all the reliable firms with whom he expects to do business. He should also consult with his board of directors regarding these firms.

Where cheese boards are organized for the purpose of protecting the patrons' interests in the selling of their cheese, I believe this privilege should be taken advantage of, and the cheese sold only on the boards. Buyers who contract for a season's make at the highest price paid on the board, for some of the leading factories, have the privilege of keeping the prices down a fraction of a cent on the board, in order that they may not pay the highest price to those factories with whom they have contracted.

I do not see why cheese should not be paid for when delivered at the shipping point, as all other farm produce is paid for. This is an industry which is out of its infancy now, and should not be abused by a few men who wish to make a little money out of the farmer by taking advantage of having his cheese at Montreal, or some other shipping point, and then demanding a half cent per pound off, or two pounds per box, as the case may be, for short weight, off-flavor, etc.

It seems to me that, if cheese were all hauled to the shipping point on a certain day, and sold on its merits by auction, and accepted or rejected there, it would be the proper way. This, of course, would demand another system. It would be necessary to have a cold-storage plant where cheese could be kept over from one week to another, and the buyers and salesmen meet weekly and hold their sales.

The case mentioned by the merchant, where they were called upon to make good a check for \$4,000, by the defaulting of their representative, is more than offset by the numbers of factories that lose each year by cheese buyers who fail in the business. There is scarcely one shipping point in Ontario now that is not represented by one or two reliable banking firms, and the excuse, it seems to me, is a very poor one, indeed, for not paying for cheese by check when delivered at the car.

The fourth suggestion offered in your recent article might work out all right were the cheese all inspected at the factory by the buyer or his agent. In some cases, the shipping of cheese with bill of lading attached has been tried, and, when the cheese reached Montreal they have been refused, and a half cent per pound demanded off the selling price, or two pounds per box off in weight; and, of course, the cheese is there on cars, and the seller hundreds of miles away, and what is to be done? Possibly the weather is very warm or cold, and the cheese is apt to become overheated or frozen. There is only one course to pursue, and that is to accept the cheese buyer's offer.

Why could not five or six factories, making a uniform article of cheese, co-operate, and ship their cheese direct through a bank to a reliable firm of commission men in the Old Country, and save the middleman's profit in this country? This plan has been adopted in this section several times in the fall, when a dispute arose between buyer and seller, and always came out with advantage to the patrons. If it can be done in the fall with a small shipment, why could it not be done in the spring and continued throughout

the season, with weekly shipments in carload lots. Of course, the same vigilance would be required by the salesmen over the buyer, as in the case of our own local buyers. PATRON.
Northumberland Co., Ont.

THE SOURCE OF MILK - FAT.

Whence comes the fat of milk? is a question which has received a good deal of attention among scientific and practical dairymen. The old school of physiologists taught that the manufacture of organic constituents was a power possessed only by vegetables, but Liebig proved that the fat contained in the milk of the cow was greater than could be accounted for by the fat present in the grass which she ate. An experiment conducted at the Ontario Agricultural College indicated that, for 7.4 pounds fat (estimated) in the grass consumed by two cows, they produced 17.4 pounds fat in the milk. Here we have more than twice as much fat in the milk as was estimated to be in the grass eaten by the cows while on pasture during one week. It seems as if the cows must have been able to manufacture milk-fat from a source or sources other than the fat in grass.

Lawes and Gilbert showed that, for 100 pounds of fat in the food consumed by hogs, they stored 472 pounds of fat in the body, indicating that animal or body fat may be, and probably is, produced from other sources than that of the fat in food consumed.

One authority says, regarding the source of milk fat: "All the evidence we possess goes to prove that the fat of milk is formed in the cells (of the udder) through a metabolism (change) of the protoplasm."

Another says: "The origin of the fat is, without doubt, in a process of fatty degeneration of the cell contents (of the udder). The amount of fat in milk is diminished by an increase of the fat in food. A fatty diet may help the milk secretion, but not by immediate transfer of the fat of the food to the milk."

Another view is: "The fat, in the form of an emulsion, or exceedingly intimate mixture, in particles so fine as to be invisible, is absorbed directly into the circulation, and is carried on with the blood, to be deposited where the exigencies of the system require it. It is carried in large part to the udder, where it is first deposited in the glandular cells of the udder, and is then mingled with the copious secretion known as milk."

Acting on the foregoing theory, an enterprising American a few years ago conceived the idea of feeding tallow to cows, and having them transform this into milk-fat or butter. The supposed discovery created a sensation at the time. If cows were able to transform 10-cent tallow into butter worth 25 cents per pound, dairymen were in a fair way to become millionaires in a short time. The Cornell Experiment Station investigated the so-called discovery, but found that cows were unable to convert any quantity of tallow into butter. If we remember rightly, they did succeed in getting cows to consume so much as two pounds of tallow per cow daily, but the cows produced no more milk or milk-fat than they did on the regular ration.

In some further experiments conducted at the O. A. C., with three different lots of cows, on four different rations, the results were:

	Digestible Fat	
	in Rations.	in Milk.
	Lbs.	Lbs.
No. 1.....	5.18	9.40
No. 2.....	14.00	13.67
No. 3.....	14.70	13.62
No. 4.....	6.16	15.94

In these cases, the cows fed on rations containing an excess of fat produced milk containing slightly less fat than was contained in the rations fed, while on the two rations having a moderate amount of fat, the fat in the milk was practically double the amount of fat contained in the food fed to the cows. There is also evidence pointing to the value of proteid compounds, directly or indirectly, for milk production. No. 1 ration contained but 7.28 pounds of proteids, while No. 4 contained 17.08 pounds proteids. This ration (No. 4) gave much better results than did Nos. 2 and 3, although these two rations contained more than twice as much proteid and fat material as did No. 4, thus indicating that it is possible, with some cows, at least, to feed more nutrients than the cow can consume, and this may be a hindrance rather than a help to her. It is one of the finest points in practical cow-feeding to determine how much digestible nutrients may be fed to a cow profitably.

The most exhaustive work done in America on the question of the source or sources of milk fat is that done at the Geneva Experiment Station, New York. Two bulletins have been published (Nos. 132 and 197) on the results of their investigational work. A mass of data has been collected which is somewhat difficult for the

ordinary man to digest. However, both bulletins give, in fairly clear, comprehensible terms, the gist of the matter investigated. The results of the first experiment are based upon work done with one cow only. There are always objections to conclusions drawn from tests conducted with but one cow. These defects, to some extent, at least, have been remedied in the second series, where three cows were used. The individual cow factor is an important factor in all work of this nature. It is seldom safe to conclude that, because certain results were obtained with a certain cow, under certain conditions, similar results would be obtained with all cows under all conditions. Work of this nature is so laborious and expensive that it will require years of time and the expenditure of large sums of money before the question or questions raised can be satisfactorily answered. In fact, it may be doubted if there shall ever be a complete answer. It is one of the mysteries, hidden from the wise, but possibly revealed to babes.

In the first test, with one cow, she was fed on normal foods for about two weeks, which was followed by feeding for 95 days on foods from which the fats had been extracted by methods used in the extraction of oil from linseed. The conclusions are summarized as follows:

1. A cow fed during 95 days on a ration from which the fats had been nearly all extracted, continued to secrete milk similar to that produced when fed on the same kinds of hay and grain in their normal condition.

2. The yield of milk-fat during the 95 days was 62.9 pounds. The food fat eaten during this time was 11.6 pounds, 5.7 pounds only of which was digested; consequently, at least 57.2 pounds of the milk-fat must have had some source other than the food fat.

3. The milk-fat could not have come from previously-stored body-fat.

4. During 59 consecutive days, 38.8 pounds of milk fat was secreted, and the urine nitrogen was equivalent to 33.3 pounds of protein. According to any accepted method of interpretation, not over 17 pounds of fat could have been produced from this amount of metabolized protein.

5. The quality of milk solids secreted bore a definite relation neither to the digestible protein eaten nor to the extent of the protein metabolism. In view of these facts, it is suggested that the well-known favorable effect upon milk secretion of a narrow nutritive ratio is due in part to a stimulative, and not wholly to a constructive function of the protein.

The second bulletin (No. 197), giving an account of further tests relating to the food source of milk-fats, opens with the statement: "The conclusion reached in that experiment (Bulletin 132), that part, at least, of the milk-fat comes from the carbohydrates, is confirmed." The authors say that cow 12 (a Shorthorn grade) produced 39 pounds fat in her milk during 74 days, unaccounted for except that the carbohydrates of the food were the source. Cow No. 2 (Jersey) produced 14 pounds fat in the milk during four days, which is unaccounted for unless we accept the theory that this milk-fat was made from the carbohydrates of the food. The foregoing conclusion is reached by the eliminating process of reasoning so familiar in Sherlock Holmes (we hope the scientific authors will forgive the comparison).

The question is asked, "May we not finally conclude, then, that carbohydrates may be a source of milk-fat?" We wonder why the writer did not say, "Carbohydrates are a source of milk-fat." Is he doubtful in his own mind about the process of reasoning followed? So far as we can see, from a perusal of the data given, there would seem to be little doubt on the question.

The subject is a very interesting one, both for the scientist and the practical feeder. If cheap carbohydrates may be substituted for expensive protein and fat in the ration of a cow, it means a great saving in feeding. These experiments and all practical experience indicate that there is a limit in doing this for economic results.

H. H. D.

A PRECOCIOUS HEIFER.

An enterprising correspondent from Leeds County, Ontario, who, judging by his letter, is not adverse to a little free advertising, but who missed his chance by forgetting to sign his letter, wrote us the other day, in part, as follows:

"I, the breeder of this remarkable Holstein heifer, wish to call the attention of the public to what may be called a strange occurrence. Name of heifer, Cleana Patroness, served Jan. 18th, 1907. On June 20th, five months after date of service, and on poor grass, with no grain allowance, formed a large udder, and on July 1st commenced milking twice a day, and gave an average of 27 pounds of milk per day, continuing until Oct. 19th, 1907, when she calved a fine, healthy, strong bull calf, and has continued since her calving, giving an average of 35 pounds per day."

THE DAIRY COW DOES PAY.

Editor "The Farmer's Advocate":

Kindly allow me a little space in your valuable columns for a short reply to Mr. J. Campbell's letter, "Is Dairying Unduly Fostered?" in your issue of Feb. 27th. From the tone of Mr. Campbell's letter, it seems that he has never gone into a dairying section of the country to get his information, either as to profits on investment, the breeds which are in demand, or the prices realized at public sales.

Dairying, in its different branches, is beyond doubt the most important of all our agricultural pursuits, and, where conducted on business principles, and with the right class of cows, there is no doubt that it at the same time, is the most profitable of all our agricultural industries. When a man can realize a dollar per day from the product of only one cow, as Mr. Patten, of Brant Co., announces that he does from his pure-bred Holstein cow, then we should not criticize the Government for aiding that industry, but should rejoice, and encourage still further aid, as it will help to wealth and prosperity. Prosperity only can lessen our burdens. If Mr. Campbell would come to Oxford or Perth Counties and enquire, Does dairying pay? the answer would always be in the affirmative. And why so? Because the dairy cow—the cow bred for the purpose—predominates. There are the few who say they cannot afford to keep hired help on a 100-acre farm; they have the dual-purpose cow. Take our own section, the Township of East Zorra, where, in a space of about fifteen miles square, we have seven cheese factories, which annually distribute something over \$200,000 among their patrons, outside of what is derived from the by-products, as whey and skim milk, which, after all, is the cheapest and most economical feed we have for hogs and calves. However, these results can only be attained by united action. To produce the largest amount of milk in the smallest district, must be the guide. We also have those here (in a limited number) who have changed from dairying to feeding the very best quality of export cattle, and consequently have experience in both lines, and I have time and again inquired of them which is the most profitable, and the answer invariably is, "The cow, to be sure." Mr. Campbell would also find here that the grade dairy cow (especially if she is a Black and White), at public sales, bring from \$15 to \$30 more per head than the dual-purpose cow; and, for pure-breds, only last week an average of \$175 per head was realized for a lot of some 40 Holsteins; while, a year ago, when feed was much more plentiful, and money not so scarce, a similar herd of imported and home-bred Shorthorns, of high average quality, did not average \$100. This clearly shows in which direction the wind blows. The fact that in 1906 some 78 nurse cows were in the Toronto Industrial Fair stables, required to raise their show calves, speaks for itself. It seems that it requires the nurse's milk to produce that much-lauded pink skin, rather than the much-praised Shorthorn milk. The letter of Mr. A. I. Hickman, of Kent Co., Eng., published in your Feb. 20th issue, also points strongly in this direction, and fully bears out my contention that Shorthorn breeders have only imported the purely beef type, and have entirely ignored the milking qualities of their favorites, and that it will not only take a few years, but a generation, to redeem the lost ground; and never, if they pursue the same course as heretofore. The sooner dairymen get over the idea of the 3,000-pounds, or even the 4,500-pounds, dual-purpose cow, the better for them. Take, in comparison, the standard set by the Canadian Holstein Association, where, in order to be eligible for the yearly Record of Performance, a two-year-old heifer must produce 7,500 pounds milk, and the mature cow 10,500 pounds (and that is not their limit). I can assure Mr. Campbell that, where this class of cows are kept, neither cheese factories nor creameries are closed up, and all patrons will admit that dairying is the most profitable branch on the farm, and receives no undue fostering at the hands of our Government.

H. BOLLERT.

Oxford Co., Ont.

The National Dairy Show Association, at their annual meeting, held in Chicago, March 4th, decided that the next National Dairy Show should be held some time the coming fall, not later than December 15th, time and place to be selected by the Executive Committee. The following officers were elected: President, H. B. Gurler, DeKalb, Illinois; Vice-President, H. E. VanNorman, State College, Pa.; Treasurer, Granger Farwell, Lake Forest, Ill.; Secretary, E. Sudendorf, Clinton, Ill.; Board of Directors—J. A. Walker, Chicago, Ill.; W. B. Barney, Hampton, Iowa; D. H. Jenkins, Indianapolis, Ind.; E. K. Slater, St. Paul, Minn.; J. D. Nichols, Cleveland, Ohio; W. E. James, Hinsdale, Ill.; J. G. Hickox, Whitefish Bay, Wis.

PRODUCTION OF MILK FOR CITY CONSUMPTION

The production of milk for city trade is no longer a side-issue in the dairy business, but is now a line of itself, requiring care in its production and skill in its management. The consumption of milk in our cities has trebled during the past ten years, and we now find our cities reaching out farther and farther into the country for their milk supply. There are three reasons for this: First, the increase of the urban population; second, the realization of the milk consumers of the food value of milk, it being now regarded as a necessity instead of a luxury; third, the low price of milk, as compared with other food products. We are told that a quart of milk, twelve ounces of beef, and six ounces of bread all represent about the same amount of nutriment, and yet only that can be considered as true nutriment to the body which is digested and assimilated, and, under different circumstances, these three substances may have entirely different food values. So says Dr. J. Allen Gilbert, and he farther says: "Being a liquid, we are prone to look upon milk as a mere matter of drink, rather than a food, whereas, in it are contained all the elements necessary to the maintenance of the human body, and evidence is to be had in abundance showing that milk is in no sense a luxury, but is an economical article of diet. Meats and milk are both rich in protein, and are, in a sense, interchangeable as regards food value. Consequently, the amount of solids in milk becomes of great importance."

As the population of our cities increases, so will the demand for milk, cream, and milk products correspondingly increase, and each season will find more dairymen within easy reach of our cities turning their attention to the producing of milk for city trade.

In order to make this phase of dairying return a reasonable profit each year, it may mean some changes from former methods pursued on the farm, such as remodelling stables and fitting them for winter dairying; the erecting of a milk-room and ice-house (a supply of ice is indispensable). Then, it may mean the selecting of a breed of cows better suited for the production of large quantities of wholesome milk. By wholesome milk, I mean milk not lower than 3.25 per cent. of butter fat, nor 8 per cent. total solids not fat. Milk below that standard, while it may be wholesome, is not desired by the consumer. It is now recognized by the medical fraternity that a milk with a fair amount of butter-fat, say from 3.25 to 4 per cent., and with a proportionate amount of total solids, is the best-balanced milk for city consumption. The best of authorities claim that, when we get over 4 per cent. of fat in milk, the total solids do not proportionately increase, and, as the food value of milk is largely in its total solids, therefore it loses its food value to a certain extent when it gets beyond that standard. Again, it has been demonstrated that, in milk ranging from 3.25 to 4 per cent. of fat, the fat globules are smaller than milk richer in fat contents, and it is therefore more easily digested and assimilated than milk rich in fat contents.

Such being the case, we come to the conclusion that the best breeds to produce milk for city trade are the Ayrshire and Holstein, or their crosses, leaving the Channel Island breeds to produce the cream. The Ayrshire and Holstein, are milk breeds, and, as such, give large amounts of milk when liberally fed. In days gone by, around the cities of Toronto and Montreal, Ayrshire-Shorthorn crosses supplied the largest bulk of the milk consumed. These cows were very popular, they being good producers at the pail, and also giving a good carcass for the butcher when milked out. We find fewer of these to-day, their place being taken by Ayrshires and Holsteins and their crosses.

One problem the city-milk producer has to face is the keeping up a constant supply of milk at all seasons of the year. If he is fortunate enough, or skillful enough to control his cows so that they will freshen at all seasons of the year, he has the problem solved, but few dairymen can control this to a nicety; it is the exception, rather than the rule, to do so. If the dairyman depends on his cows that have freshened in the spring and early summer to give him his winter supply, he will "get left" every time, but must have fresh cows each fall. The milk producer who makes a success, holds his trade, and gets the top price, is the one who puts in a good supply when milk is short.

There are two classes of milk producers: those who have small farms, where the number of animals kept is limited, and those who have large areas, especially of cheap land, which may be used for the pasturage of young stock as well as the cows giving milk. The former, with his limited area, has not room to grow his young stock; therefore, he must purchase, from time to time, animals to keep up the milk supply, selling them when milked out, usually accepting a lower price than when purchased, but the loss may be more than made up by the extra milk flow and deducting the cost of keeping her several months when

parts of water to produce a rich milk. This would give an article containing distinctly less than 2 per cent. of milk-fat.

6. The last conclusion is that, while there is a general approximation to a type found among the samples bearing the same name, occasional deviations of considerable amount occur. This is in accord with conclusions reached by the late Chief Analyst, who said, in a former publication (Bulletin No. 69): "I am not convinced that absolute uniformity of product is attainable in any condensed-milk factory."

The bulletin is an important contribution to our too-little knowledge of condensed milk. Nothing is said about milk powders, which are also made by at least one firm in Canada.

There seems to be considerable mystery about the manufacture of condensed milk. We understand that it is impossible to gain admittance to one of the factories. We are all very curious, Mr. Condenser, to see how you do the trick. Will you not take us into your confidence, and let us know how it is done? Our curiosity, inherited from Mother Eve, has been aroused. Please tell us something about condensed milk.

H. H. D.

GARDEN ORCHARD.

PLANTING A PEACH ORCHARD.

By Linus Woolverton.

In a recent number we gave some reliable advice regarding the most profitable commercial varieties of apples to order for planting in the various districts, which was of interest to a large portion of the settled parts of our Province. Now we will treat briefly of the most profitable commercial varieties of peaches, a fruit which, of course, is grown only in a limited section. Last season the price of peaches was so very high that peach land is much in demand this spring, and much land now planted to other fruits is being cleared for peaches.

VARIETIES.

The first problem presenting itself to the novice who has purchased land for peach-growing is the selection of varieties for planting from the long list offered by the salesman. A conservative list was published in Bulletin 147, Ontario Department of Agriculture, as follows:

- Sneed.—White-fleshed, clingstone, quality only fair, earliest of all.
- Alexander.—White-fleshed, clingstone.
- Hynes.—White-fleshed, semicling, quality good.
- St. John.—Yellow-fleshed, freestone, quality good.
- Mountain Rose.—White-fleshed, freestone, quality very good.
- Early Crawford.—Yellow-fleshed, freestone, quality very good.
- Champion.—White-fleshed, freestone, quality very good, for home use or near markets.
- Brigdon.—Yellow-fleshed, freestone, quality good.
- Fitzgerald.—Yellow-fleshed, freestone, quality very good.
- Reeves.—Yellow-fleshed, freestone, quality fair, large size.
- Elberta.—Yellow-fleshed, freestone, quality fair, good for long-distance shipments.
- Oldmixon.—White-fleshed, freestone, quality good.
- Stevens.—White-fleshed, freestone, quality good.
- Smock.—Yellow-fleshed, freestone, quality fair, very late, good shipper.
- Domestic: Hynes, St. John, Early Crawford, Oldmixon, Longhurst, Stevens.

But such a list, however good, will need occasional revision. At the recent convention of fruit-growers, at Grimsby, Mr. E. D. Smith, who buys and sells more peaches than any other man in Canada, advised growing yellow peaches almost entirely, for profit. The public taste demands the yellow peach, and, during the season of 1907, brought the grower, on an average, double the price of the white-fleshed. For canning, the factories would contract freely for yellow peaches, and would not take white-fleshed. Mr. Smith himself had put up forty or fifty cases of white-fleshed peaches at his factory in Beamsville, and had offered them in all his quotations, but, though he had sold hundreds of cases of the yellow, he had no call for those forty cases of white. He would name the following for profit, viz.: Yellow—St. John, Early Crawford, New Prolific, Elberta, and Longhurst.

Mr. Hale said that, with so much intelligence in other things, he thought Canadians should perceive the great superiority of white-flesh peaches in quality and flavor for dessert, and should always continue planting a small proportion of white-flesh peaches, until an educated taste was so cultivated that they would be in demand. He knew of no peach so delicious as well-ripened Oldmixon or Champion or Mountain Rose, and he had a special market for such peaches at higher prices than he could get for any others. For export, his favorites were Elberta and Bell of Georgia. These were sister seedlings of the

Chinese Free, and, while the former was a yellow, and perhaps a cross with Early Crawford, the latter was white-flesh, and very delicious. It was harder than the Elberta, almost as good a shipper, and ripened a week ahead of it. Hiley, a seedling of Bell of Georgia, was also a fine variety.

In answer to some questions on varieties, Mr. Hale spoke of Carmen as desirable, harder in bud than Elberta, fruit large, rich crimson in sun, sweet and delicious, almost as large as Elberta, but rots almost as easily as the triumph. Willett is a shy bearer; Niagara and Chair's Choice are shy bearers; Kalamazoo is identical with New Prolific, a first-class variety; and Stephens' Rare-ripe is a good variety to follow Elberta.

On Maplehurst Fruit Farm, the writer has grown New Prolific, and found it very productive of fine yellow peaches of the Early Crawford type, and would substitute it for Fitzgerald on the above list.

PLANTING.

There is much divergence in opinion respecting the proper distance apart for planting peach trees. The old orchard, planted on the writer's farm in 1860, was set twenty feet apart each way, and, not being shortened in, the branches almost interlocked after twelve or fifteen years. With close shortening in, however, and constant watchfulness in pruning, they may be planted much closer. The writer has recently set rows 18 feet apart, and trees 12 feet apart in each row. Mr. Hale stated, at the Convention, that he had planted some of his orchards 13 x 13, and others 18 x 18. A novel idea was to plant 20 x 20, and, after six or eight years, plant again 20 x 20, making them all 10 x 10, the older-planted trees to be removed when the ground was required by the second planting.

In buying trees, care should be taken to accept only those one year from the bud. The green, fresh color of the bark from the mark where the old stock was cut off near the ground, will be the guide in this matter. This is important, because older trees do not transplant successfully.

Before planting, the peach tree should be pruned to a whip, leaving no branches at all, and then this whip should be shortened back to some strong buds.

Growers differ as to the height from the ground most judicious for forming the top. Our usual custom has been to form it at from 2½ to 3½ feet, in order to give easy access for cultivation, but the recent methods necessary for securing high-grade fruit argue strongly for very low heads. The grower must go over his trees many times, spraying, pruning, thinning, harvesting, and the nearer the ground he keeps his top, the less climbing.

Mr. Hale cuts off his trees at eight or ten inches from the ground. Then, he keeps the whole top down so low that the fruit can be harvested without any climbing. He stated, at the recent convention, that he had harvested 250 carloads of peaches in a single season, without using even a step-ladder!

EXPERIMENTS WITH VEGETABLES.

The practical educational work carried on by the Ontario Agricultural College, through the Experimental Union, is now well known throughout Ontario. Thousands of people in both town and country, interested in farming, fruit-growing or gardening, are carrying on experiments under direction of the College, and are profiting by the experience.

The seeds or plants for these experiments, and full instructions for conducting them, are furnished free on the understanding that each experimenter will report the results of his experiment at the end of the season.

Owing to the great demand for the experiments with fruits, and the limited funds for the purchase of plants for this purpose, the supply of these for this year is already exhausted. But we have on hand a good supply of seeds for the experiments with vegetables, and hope to be able to furnish these to all interested in the growing of the best kind of garden vegetables.

Three of the leading varieties of each of the following kinds of vegetables are offered for testing this spring, viz., beets, carrots, onions, lettuce, early tomatoes, and later tomatoes.

The early tomatoes are best for northern sections where the later and better varieties cannot be depended upon to ripen.

Any person in Ontario who wishes to join in this co-operative testing may choose any one of the experiments above mentioned, and send in his application for the seeds and instructions for conducting the same. These will be sent by mail, free of charge, but each applicant must agree to follow the directions furnished, and report the results at the end of the season, whether successful or not.

Applications will be filed in the order they are received, until the supply of seeds is exhausted. Address all applications to

H. L. HUTT.

Ontario Agricultural College, Guelph, Ont.

GLEANINGS FROM THE NIAGARA PENINSULA FRUIT-GROWERS' CONVENTION.

Reference was made in "The Farmer's Advocate" last week to a very successful and enthusiastic three-days' convention of the Niagara Peninsula Fruit-growers, held in Grimsby and St. Catharines. Below will be found a budget of information, gathered for our readers by a special correspondent:

COMMERCIAL PEACH CULTURE.

The first of the three-days' fruit meeting opened in Grimsby, on March 4th, with an attendance of over three hundred.

J. H. Hale, of South Glastonbury, Conn., a strong, pleasing speaker, spoke on "Commercial Peach-growing." Peach-culture is one of the most profitable branches of fruit-raising, and was one of the most risky. The Niagara District escapes the climatic changes that many of the southern States suffer from. As an instance of rapid increase in many lines of horticulture, fifteen years ago not a single carload of canteloupes was shipped from any one station in the United States, while in 1907 some 11,000 carloads were forwarded. Fruit-growing has also increased very rapidly. He believes in getting on the land as soon as it is dry and cultivating the trees, continuing until the bending branches, loaded with fruit, prevents further work. Grow cover crops with fruit, prevents further work. Keep the trees low, the balance of the season. Keep the trees low, making pruning, spraying, thinning and gathering easier, and producing better fruit and longer-lived trees. He advocates summer pruning in late June or early July, on trees growing in strong soil, to stimulate the formation of fruit buds. He thins his peaches to from 6 to 8 inches apart. If thinned to eight inches, fruit will ripen a week earlier than on more heavily-laden trees. Fruit should be fully developed before gathered, going over the trees at least three times. Pack in central stations, with skilled help—women preferred. In teaching how to grow and produce good fruit, do not forget the selling or business end. Buyers make the price on No. 2 and culls; the seller can command his price on No. 1 and fancy grades. He plants the trees 18 x 18 and 20 x 20 feet apart. Yellows are most serious in colder climates. There is no known remedy; take out tree and burn as soon as first indication shows—no salvation for tree. Keep the orchard as long as the trees are vigorous and healthy. Peaches can follow peaches, if constituents lacking in soil are replaced. He uses chemical fertilizers—ground bone and muriate of potash—and plows under cover crops. The summer vetch is valuable for the purpose. Sow 40 to 50 pounds per acre. White peaches are better-flavored than yellow. Belle of Georgia in white takes the place of Elberta in yellow. The New Prolific is the same as Kalamazoo.

W. G. Farnsworth, of Waterville, Ohio, spoke on "Cultivation and Soil Moisture, and How to Conserve." It takes 900 tons of moisture to produce a 60-bushel crop of corn; a crop of peaches would require equally as much. Good drainage is necessary to remove surplus water in soil. Excess causes short-lived trees. Thorough tillage is essential; utilize leguminous crops.

In the evening, Prof. Hutt, of the O. A. C., spoke on "Better Fruit," emphasizing the growing of the best strains of the best varieties; budding and grafting from particularly good bearing trees; striving to improve, also, by better orchard management and tillage.

Prof. Macoun, of Ottawa, discussed the subject, "Individuality in Fruit."

Mr. Farnsworth gave his experience in growing strawberries, and Mr. Hale his manner of handling the peach crop of 2,000 acres in Georgia.

LIME-SULPHUR THE BEST FUNGICIDE.

On Thursday, March 5th, at St. Catharines, the meetings were resumed. The large hall was packed to its utmost capacity. Mr. Farnsworth gave his experience with lime-sulphur spray. Since commencing to use the mixture, so efficacious has it proved in invigorating the trees that, even when no scale is present, the grower is well repaid for his trouble. The mixture must be thoroughly boiled, and applied carefully, taking advantage of the wind to help carry the spray to all parts of the tree, and waiting till the wind is in the opposite quarter to complete the spraying. Uses 18 pounds of sulphur (sublimed, or flowers of sulphur) and 20 pounds of lime to 50 gallons of water. Boiling with steam, sublimed sulphur gives a more even mixture, breaking down more quickly, and not leaving so many particles free. The sulphur can be dumped on the lime in the barrel without being made into a paste. No other remedy so far found leaves the trees in as vigorous condition, the lime-sulphur being by far the best fungicide.

Mr. Hale corroborated what Mr. Farnsworth said. The greater portion of Mr. Hale's time was taken up in answering questions. The evening meeting was largely attended by the members of the city Horticultural Society.

APPEARANCE OPENS: QUALITY KEEPS OPEN THE POCKETBOOK.

On Friday morning, Mr. Hale gave further ex-

perience in peach-growing. Men succeed best who enjoy working in and among the trees. He takes pleasure in planting and watching the progress and growth of the tree and crop. If we can lengthen the fruit season, more and more fruit will be consumed. The more fruit people use, the more they want. Quality will tell in the end. You can open a man's pocketbook with appearance, but quality will keep it open until the last cent is gone. Never give out that we are going to have a short crop, as then customers think prices are going to be high, and less will be asked for, and prices will drop, whereas, if people expect a bumper crop, there will be strong demand, and prices will soar. He prefers medium-sized, well-rooted trees to plant. Rub off surplus buds during the first summer. Fruit will carry longer and farther if cooled immediately after being picked and placed in good refrigerator cars. The co-operative system of handling fruit is the only practical plan, and the most economical. He called the Niagara District the California of Canada, only the Niagara District is in the center of the territory and catches the consumers on both sides, while California is on one side, like British Columbia.

LIME WASH AND LIME-SULPHUR WASH.

Will you please give me information about spraying apple trees? What can be done against the bark-louse this spring? Will lime wash do before trees bud out? If so, what quantity? Also, directions for spraying against scab and worms? Is kerosene dangerous to the trees?

W. P. H.

The most effective way of ridding trees of bark-lice at this time of the year is to spray with lime wash, which should be made up at the rate of a pound and a half of lime to a gallon of water. If this is thoroughly applied, the caustic nature of the lime causes the scales to loosen from the tree, so that they are readily blown away or washed off by spring rains. To make lime wash, slake 1½ pounds fresh lime in 1 gallon of water. Strain the wash before spraying. Apply with a spray pump to all parts of the tree.

Kerosene, in the form of an emulsion, could be used for the same purpose, but there is always more or less difficulty in making a good emulsion, and, unless properly made, the kerosene is liable to injure the trees.

One of the most effective spraying mixtures for scale is the lime-sulphur mixture, which also acts as a fungicide, and helps to prevent the apple scab. The formula for lime-sulphur wash is 20 pounds fresh stone lime, 15 pounds sulphur (flowers) and 40 gallons water. With warm water, make the sulphur into a paste, put in the lime, and add about 15 gallons warm water with stirring. The sulphur made into a paste may be added after the lime has been slaked. Boil for an hour and a half in a kettle or in a barrel with live steam. Make up to forty gallons. Strain into a spray tank, and apply while warm.

H. L. HUTT.

O. A. C.

GROWING ONIONS FROM SEED.

Could you give me, through the columns of your valuable paper, any information regarding growing onions from seed, the names of varieties most likely to do well on black loam with pretty tight bottom, and what is an average crop and price for same?

D. E. T.

Onions will do well upon rich, black loam, but require good drainage. The land should be thoroughly prepared by one or two previous hoe crops, which will clean the land of weeds and weed seeds. The seed-bed for onions should be made firm and mellow, and seed should be sown as early as possible in the spring, at the rate of from three and a half to four pounds per acre, in drills about fifteen inches apart.

The choice of varieties depends largely upon the demand of the market. Some markets prefer the white or yellow, and others the red-skinned varieties. The variety most largely grown is the Yellow Danvers. This is a productive, firm, yellow-skinned variety, which keeps well. The Prizetaker makes larger, finer bulbs, but is not such a long-keeper. Red Wethersfield is one of the best of the red-skinned varieties.

The onion bulbs should be allowed to form on the top of the ground; hence, in cultivating, soil should not be thrown against the bulb. Clean, shallow cultivation should be given frequently enough to keep down all weeds and conserve soil moisture. The wheel-hoe is one of the most satisfactory tools for cultivating onion crop. This can be made to straddle the rows or work between the rows. Hand weeding may be reduced to a minimum by careful use of this tool. If the seed is not sown too thickly, the crop should require but little thinning, as onion bulbs will stand considerable crowding; but for large-sized bulbs, the crop should be thinned out to give room for full development. The crop varies from three hundred to eight hundred bushels per acre, but six hundred bushels is considered a big crop. Prices vary from time to time, but 50¢

per bushel in the fall is considered a fair price. The crop should be harvested as soon as the tops are half dead, and bulbs should be left on the ground to thoroughly dry. The tops and roots should then be twisted off, and the crop may then be stored or put on the market. Unless one has had experience in storing, and has good conditions for it, it is better to dispose of the crop as quickly as possible.

O. A. C.

H. L. HUTT.

CANADIAN APPLES IN AUSTRALIA.

There were imported into Australia, by the Canadian-Australian steamers, 19,831 boxes of apples, in three shipments, the receipts being, for October, 6,772 boxes; November, 8,163 boxes; December, 4,896 boxes, writes J. S. Larke, Canadian Commercial Agent in Australasia, to the Department of Trade and Commerce at Ottawa. There were, in addition, a few boxes that came by freight steamers from San Francisco, but the shipments on these slow steamers were a complete failure. Nearly all the apples arrived, apparently, in good condition. A quantity were carried on deck, and, where these were sound, they had lost their flavor. Those carried in cool-storage were prime on receipt. Some of the apples were first-class fruit, free entirely from disease, and passing without difficulty. Others, from California, were affected with codling moth, and had to be treated. It is stated that any future shipments affected in this way will be destroyed on arrival at this port. The apples suited to the market, especially those from one orchard in Oregon, brought high prices, varying from 15s. to 20s. per box. Those unsuited to the market brought from 10s. to 12s. per box. It is said that a few of these apples were of British Columbia origin, but of this I have no evidence, and was unable to locate them. The fact that one United States shipper continues to send such large quantities of apples to this market supports the statement that I have made in previous years, that the Australian market is the most profitable market for the British Columbia grower open to him. A Canadian paper informs me that buyers were paying a very high price for shipping Ontario apples to the Eastern United States. The prices there had been so high that Western United States apples were also being sent there. Nevertheless, the finest grower in Oregon found it to be still more profitable to send his fruit to Australia. The price stated to me paid for first-class British Columbia fruit was from one dollar to one dollar and a quarter per case at Vancouver, which was certainly a dollar a case less than the fruit would have brought by shipping to this market under proper conditions. There is, however, this objection to the British Columbia apple, that the average of the best fruit is too large in size, giving too few to the box. Nearly 20,000 cases of apples were disposed of at different points at the prices I have named, and more than justifies my statement that this market would take 15,000 cases when properly handled.

APIARY.

REMOVING BEES FROM THE CELLAR AND OTHER SPRING BEE WORK.

The general rule is to leave bees in the cellar until some trees, shrubs or plants yield pollen. This is a good rule to follow, if the bees remain quiet till this time. You see, when set outdoors, the bees commence to rear brood. Pollen is necessary for this; it is used for preparing the larval food. If there is no natural supply of pollen yet, what is the use of setting out the bees? But there are times when it is necessary to remove them from the cellar, pollen or no pollen. This is when they, for some reason, having wintered poorly, become uneasy, and spot and soil the hives with their excreta. Out with them when such conditions exist, so they can cleanse themselves, and not eventually die in befouled hives.

When bees have wintered well, they will not become much roused-up during the setting out. Matters can also be helped along this line by opening doors and windows of the bee cellar the night preceding the setting out. At first, when fresh air is admitted, the bees will roar somewhat, but, it being dark, not many will crawl out. The next morning they will have quieted down.

Before taking a hive out, the bees should be smoked. I also make quite a good deal of smoke in the cellar. All the bees will "smell" some of it then, and they are not as likely to come out, as the frequent opening of door and admittance of light will tend to make them do.

When a colony is set on its stand, it should be smoked some more. Then, the entrance is to be contracted, so a few bees only can pass at a time. A piece of lath of a length to fit between the side bars of the bottom-board, with the right-sized opening (about 2 by 2 inches) cut in one edge, can be used as an entrance contractor. But the entrance can also be contracted with sand or

sawdust, preferably the latter. Why all this talk about contracting entrance? Well, if the opening is large, the bees will come out with a rush, and in great numbers at one time, thus not marking their location properly. After having taken their cleansing flight, they will enter almost any hive. This would not matter if all hives got their proper share of bees; but some hives will "draw the crowd," and be full of bees at evening, while others will have but a handful. If such depopulated colonies do not die soon after, they certainly will not build up for the white-clover harvest.

If the bees, by entrance contraction, are compelled to come out slowly, they generally will mark their location. Remember this, and act accordingly, for it means more surplus.

If I can do so just as well, the hives are put on their old stands. It really isn't important, though, as I have not noticed that, when a colony is placed in another part of the apiary, any bees will go back to the stand they occupied the previous season.

Though all colonies may have had about the same amount of stores the fall previous, some hives will be much lighter when carried out, this because some colonies consume more stores than do the average ones. As they may run short before fruit bloom, I mark such colonies. Then, as soon as the weather permits, they are examined and the deficiency supplied. I insert frames of sealed honey. Such are saved from the previous season. I don't like to feed sugar syrup or liquid honey in early spring, as it rouses the bees to excessive brood-rearing. Of course, if frames of sealed honey are not to be had, then I would give sugar syrup. Enough should be given to last until the bees can get nectar from natural sources, which here is fruit bloom.

Examination of colonies to see if there is a deficiency of stores should not be made the same day the bees are set out from the cellar. The bees would come out at the top as soon as a cover is removed, and not mark their location properly. Wait for this till the first warm day after setting out.

All of the colonies should be examined, anyway, the first day suitable after setting out, this to ascertain queenlessness, besides the lack of stores. I don't look to see the queen. If there are eggs in the hive, I know that this colony is in possession of a laying queen. Any colony that has no eggs or brood a week or longer after having been set out from the cellar, is either queenless or in possession of a very poor or worthless queen.

It hardly ever pays to send to southern queen-breeders for a laying queen. The bees of a queenless colony are old, and, by the time a queen can be introduced, there will be comparatively few bees left. If such a colony does not become extinct, it very seldom will build up for the surplus nectar flow.

I prefer to unite queenless colonies with other colonies, choosing those weakest in numbers. The queenless colony is set over the hive it is to be united with, with a wire-cloth division board between the two stories. After the two colonies have been thus left for several days, the wire-cloth is removed and the queenless bees of the top hive shaken off the combs to unite with the lower hive. The bees of both hives must be well smoked before the uniting, so they will not fight.

The combs of the queenless hive containing the most honey can be put into the lower hive after an equal number of least-filled combs have been removed.

When examining colonies for lack of stores or queenlessness, hives should never be left uncovered long. Though it may be quite comfortable to the apiarist, the hive's heat will escape rapidly in early spring. This results in chilled brood, which gives such a colony a great setback. At 65 degrees F., or higher, brood combs can be handled with no danger of brood being chilled. When working with bees at a lower temperature than this, I throw a quilt over the hive as soon as cover is removed. This is rolled back for the removal of frames, and the hive again covered as soon as possible.

If some of the colonies are dead, the hives can be set to one side. Those combs that contain quite a little honey yet can be used for feeding colonies deficient in stores. When there is only a small amount of honey in the frames, they should be put into hives and stacked up outdoors, a cover put on top, and the entrance contracted so only one or two bees can pass at a time. The outdoor bees will then slowly remove the honey. I do not feed the honey in such frames until a short time before fruit bloom. To feed early stimulates the bees more than is desirable.

When constructing a new bee cellar, several years past, I put a large window in one end of the foundation. Through it hives can be set out, but it takes two persons for the setting out. It is much easier work than carrying hives up a stairway.

Wisconsin.

F. A. STROISCHEN.

POULTRY.

HATCHING CHICKENS BY NATURAL MEANS.

Anyone can set a hen, and the veriest tyro may often find his efforts rewarded by a fine clutch of fluffy chicks. Think not, however, that there is nothing to learn about the art, or no helpful suggestions to be offered. In a bulletin, last year, by the Massachusetts Board of Agriculture, appeared quite an exhaustive article on "Hatching and Rearing Chickens by Natural Methods on the Farm." It was prepared by that prince of American poultry-writers, John A. Robinson, author of that excellent manual, "Poultry Craft," and it is surprising how many practical suggestions Mr. Robinson finds to offer on this single subject. Part of the article we reproduce in this issue, retaining the balance for publication at a later date. It is all well worth reading:

A leading manufacturer of incubators is my authority for the statement that there are in the United States and Canada about one hundred and thirty concerns manufacturing incubators and brooders. Many of these are small establishments whose separate output is comparatively insignificant, but the aggregate output of these small factories must be very large, and there must be fully two-score of concerns manufacturing on a large scale, the largest turning out hundreds of incubators and brooders daily. Though the total production of these machines for the hatching and brooding of chicks is greater now than ever before, it has for years been large; and when we consider that a well-made incubator ought to last for a good many years, it would seem that the increasing number of incubators and brooders sold must indicate a general substitution of artificial for natural methods of hatching and rearing chicks, and the early advent of the era, to which some enthusiasts in artificial methods look forward, when the hen will have nothing to do but produce eggs. The incubators and brooders sold do not necessarily represent hens put out of commission as mothers. To just what extent they actually displace hens it would be impossible to determine, but where they are most used, their service is either in supplementing natural methods or in lines which could not be developed on a large scale by such methods.

Thousands and thousands of the cheaper machines will hatch well only while new, and under the most favorable circumstances. Thousands of poultry-keepers who buy good machines never learn to run them satisfactorily. They may continue to use them experimentally for some years, but in the end they go back to natural methods as easier and better for them. And the question, which is the better method in the end? comes to a question of circumstances and of the aptitudes of individuals. Some people can do so much better with artificial methods that they prefer them under any circumstances. Some can use either method successfully. Others get their best results by natural methods. So, natural methods continue to be used, and used very extensively, and, further, the competition of methods has, without doubt, served to give a better general understanding of the weak points of natural methods and the best ways of treating them.

The operator of incubators and brooders soon finds that these mechanical contrivances are not self-operating. He has to tend to them constantly and carefully, and give a great deal of thought to what at first seemed the trivial matter of putting into practice the few simple directions for operating which accompanied the machine. He learns in time (if he succeeds) that, to have his machines work well, he must, in working with them, be methodical and regular, and, as far as possible, furnish conditions of operation which are favorable.

NATURAL METHODS WITHOUT NATURAL LOSSES.

The farm furnishes as near an approach to purely natural conditions for the production of poultry as we can have for domesticated fowls, yet it is a most exceptional farm that offers conditions which admit of leaving the poultry—particularly the young poultry—to itself. In a state of nature, the tendency is, for such creatures as fowls, to maintain themselves in about the same numbers on the same area year after year. This means that the great majority of the young produced must succumb to their natural enemies or to the rigors of natural conditions before reaching maturity. Now, though the domestic hen may be far more prolific of eggs than her wild counterpart, she is also an expense to her owner, and his profit upon her is measured not by the number of eggs she may lay, but by the difference between the value of her produce and the cost of her keep. In the hatching and rearing of chicks come the heaviest losses of most poultry-keepers on farms, and, to a very great extent, these losses are not necessary, and could easily be avoided. To avoid losses, and make the most of natural facilities for hatching and growing chicks, systematize the work.

QUARTERS FOR SITTING HENS.

Provide for the sitting hens exclusive quarters, and for the hens with chicks coops of substantially the same size and type, and a piece of land of such extent and character that the chicks have all the advantage of range and freedom without being so much scattered that the work of looking after them four or five times daily is too laborious.

If this is done, and a reasonable amount of attention given the chicks up to the weaning age, losses up to that point should be small, and the stock on hand at that stage much better developed than when the work is not so thoroughly done.

When any considerable number of chicks is to be hatched by hens, it is advisable to set as many hens as possible at the same time, and preferable to have a certain day of the week for setting hens, and set none at other times. This simple little point of practice introduces at once an element of regularity in the work which would have a marked influence all through, even if no other effort to secure regularity were made.

Make the nests in banks or tiers, built up like shelving in a store, or perhaps more graphically described as resembling a sectional bookcase. The nests need no back, for they are placed against the wall. The fronts should have covers of slats, or of a board just wide enough to leave space for air above and below it. Each cover should be the length of a section, opening and closing all nests in one section together. The covers should be hinged at the bottom (leather hinges will do), because they must be fastened when closed, but, if hinged at the top, they must be fastened to keep them open as well. Besides this, the cover-front, hinged at the bottom, may be used as a running-board in front of the nests, if so desired. For ordinary hens, nests should be twelve inches square, inside measurement. For nesting material, use short, fine hay or broken straw, and shape the nest well with the hand. If the nest is not shaped before the eggs are put in it, and the material well pressed down, eggs are likely to be broken during the first days of incubation.

SELECTING SITTERS AND EGGS.

Set only hens that are evidently in good health, and give the preference to those in fair flesh. Set no hen that is not easily handled after



Where's Mother?

dark, or that will fly from the nest if approached by daylight. To have hens that are healthy, quiet and easily handled means freedom from a large portion of the usual losses in the early weeks of the chick's life, as well as during incubation.

Select for incubation, eggs of uniform size and good form and color. If, for any reason, it is desired to set some eggs larger or smaller than the average, sort the eggs and give the special sizes to separate hens. The rule of thirteen eggs to a hen is a good one to follow if all nests are twelve inches by twelve inches. Some hens can cover more, but, for a reason which will shortly appear, the number of eggs should be adapted to the smallest hens in the lot. If nests are of different sizes, the largest nests and hens may have more eggs, though fifteen is as large a number as it is advisable to give any hen.

REGULAR ATTENTION.

Have the hens come off for food and water daily. If a large number of hens are set at the same time—all the apartment will contain—they may all be let off together and the nests closed while they eat, drink and dust themselves. If the floor is of earth, without too much broken droppings in it, no special dusting box need be provided. The food should be corn or other hard grain, corn preferred, and the whole corn used rather than cracked corn. For the first few days the hens should be watched closely, to prevent fighting. After they become used to the place and to each other, the attendant may let them out, close the nests, and leave them until time to return them to the nests—twenty minutes to half an hour. In returning hens to the nest, make no effort to have the hens go back to the same nests. On the contrary, if any are noticed which persistently take a certain nest, return them to an-

other. By doing this, all eggs have the same treatment. A hen that, if on the same eggs continuously for three weeks, would make a poor hatch, is never on one nest long enough to specially affect the eggs in it, and the results are better average hatches and a larger total hatch.

Dust the hens with an insect powder when setting them, again about the tenth day, and again about the nineteenth day, just before the eggs begin to pip. After the hens return to the nests, remove the droppings before they are broken into the floor, and the place will be free from the peculiarly offensive odor too common where hens are sitting.

TEST THE EGGS.

Test the eggs the seventh day, and again the fourteenth day. A metal chimney for testing, which may be used with a common lamp, may be purchased at any poultry-supply house. An infertile egg remains clear throughout the period of incubation. A fertile egg, at the seventh day, shows quite opaque, with the air cell at the larger end sharply defined, and in the same position with reference to the shell as the egg is turned before the light. If the germ is dead, but the egg not yet decomposed, the dead germ may show as a dark or bloody spot in the opaque contents of the egg. If the egg is rotten, the line of the air cell will remain horizontal as the egg is turned before the light.

Unless fertility is exceptionally good, enough eggs will be taken out at this test to release one or two hens, the eggs from their nests being used to fill others, and they either reset with the next lot or returned to the laying pens. If the eggs were fresh when set, there will rarely be rotten eggs to take out at the first test. The test on the fourteenth day discovers most eggs that will not have full-formed chickens at the end of the period of incubation, and it is important that these should be removed, for the rotten egg is the egg that breaks, and broken eggs not only make a nasty mess to clean up, but injure the chicks in the eggs which are soiled, and thus reduce the prospects of a hatch. Unless an unusual number of eggs should be taken out at the second test, it is as well not to double up again.

After the eggs begin to pip, keep the hens on the nests until the hatch is complete. This will usually be in thirty-six hours. Look into the nests enough to see that things are progressing right, to clear away shells as they accumulate, and to see that no chick is smothered by an empty shell capping the egg containing it. If a hen is so restless that she tramples her chicks, exchange her for a quieter one from a lot set later.

When the chickens are all dry, remove them from the nests to coops previously made ready for them, giving each hen from twelve to twenty chicks, according to the season. Select as mothers the hens that are in the best condition and most thrifty-looking.

TIMELY HINTS.

Editor "The Farmer's Advocate":
The farmer will do well these days to spend a little time on his henhouse. Later on, other duties will absorb his attention. Now is the time to go over the whole henhouse as carefully as he can. No nook or cranny can he afford to neglect, as robber-pests seem determined to take up quarters any place where they can find an undisturbed resting-place. Every particle of dust should be brushed down, and a liberal spraying of coal oil applied. A second or a third spraying may be found necessary, and when this is followed by a thorough whitewashing, the farmer may look forward to the warm days feeling that he has a good start on the lice. A few hours' work now will materially reduce the mortality among his matured fowl, and go a long way towards giving the newly-hatched chickens a good start. Further, provision should be made for the hatching season. If incubators and brooders are used, these should be examined in thorough detail and made immaculate for the fostering of the new life soon to be entrusted to them. If natural methods are followed, then nests and all accommodations should be provided for the brooding biddies. Obvious as the necessity for such preparations seem to be, it is astonishing how few make them. Failure in these particulars cannot be made up in any way, and will mean, at the end of the season, the doleful wail, "Hens don't pay." Hens cared for do pay, but, in the poultry business, as in all departments of farm-life, the law of cause and effect holds its place, and the farmer reaps as he sows.
J. K. Wentworth Co., Ont.

A VALUABLE BOOK PREMIUM.

I received your premium book, "Cattle, Breeds and Management," in good condition this morning, and am very much pleased with it, indeed. It is like others have said who have obtained one of your premium books for new subscribers, "It is far more than I expected." Wishing you every success.
A. G. AULD.
York Co., Ont.

THE FARM BULLETIN.

EXPERIMENTS WITH FARM CROPS.

The members of the Ontario Agricultural and Experimental Union are pleased to state that for 1908 they are prepared to distribute into every township of Ontario material for experiments with fodder crops, roots, grains, grasses, clovers and fertilizers. About 2,200 varieties of farm crops have been tested in the Experimental Department of the Ontario Agricultural College, Guelph, for at least five years in succession. These consist of varieties from nearly all parts of the world, some of which have done exceedingly well in the carefully-conducted experiments at the College, and are now being distributed free of charge for co-operative experiments throughout Ontario. The following is the list of co-operative experiments in agriculture for 1908:

No.	Experiments.	Plots.
1	Three varieties of oats	3
2a	Three varieties of six-rowed barley	3
2b	Two varieties of two-rowed barley	2
3	Two varieties of hulless barley	2
4	Two varieties of spring wheat	2
5	Three varieties of buckwheat	3
6	Two varieties of field peas	2
7	Emmer and spelt	2
8	Two varieties of Soy, Soja, or Japanese Beans	2
9	Three varieties of husking corn	3
10	Three varieties of mangels	3
11	Two varieties of sugar beets for feeding purposes	2
12	Three varieties of Swedish turnips	3
13	Two varieties of fall turnips	2
14	Two varieties of carrots	2
15	Three varieties of fodder or silage corn	3
16	Three varieties of millet	3
17	Three varieties of sorghum	3
18	Grass peas and two varieties of vetches	3
19	Rape, kale and field cabbage	3
20	Three varieties of clover	3
21	Sanfoin, lucerne (alfalfa) and burnet	3
22	Four varieties of grasses	4
23	Three varieties of field beans	3
24	Three varieties of sweet corn	3
25	Fertilizers with Swedish turnips	6
26	Sowing mangels on the level, and in drills	2
27a	Two varieties of early potatoes	2
27b	Two varieties of medium-ripening potatoes	2
27c	Two varieties of late potatoes	2
28	Three grain mixtures for grain production	3
29	Three mixture of grasses and clover for hay	3

The size of each plot in each of the first twenty-seven experiments and in Nos. 29 and 30 is to be two rods long by one rod wide; and in No. 28, one rod square.

Each person in Ontario who wishes to join in the work may choose any ONE of the experiments for 1908, and apply for the same. The material will be furnished in the order in which the applications are received until the supply is exhausted. It might be well for each applicant to make a second choice, for fear the first could not be granted. All material will be furnished entirely free of charge to each applicant, and the produce will, of course, become the property of the person who conducts the experiment.

C. A. ZAVITZ,
Director.

Ontario Agricultural College, Guelph, Ont.

HARNES, HUNTER AND SADDLE HORSE SOCIETY'S MEETING.

The tenth annual meeting of the Harness, Hunter and Saddle Horse Society of Canada was held in the King Edward Hotel, Toronto, on the evening of March 10th. President J. J. Dixon, who was selected President, was in the chair, and there were a score of members present. Secretary's report—Mr. H. J. P. Good is the Secretary-Treasurer—created considerable discussion. It alleged that the Government of the country did little or nothing for the types of horses represented by the Society, all their attention being devoted to the heavier breeds. Mr. Good, in his report, referred to the dearth of cavalry and mounted infantry horses, as voiced by Major Grace recently in England, and said that our own camps were insufficiently supplied. The most poignant paragraph of Mr. Good's report was this:

"Our friends, the farmers, may not view with complacency the statement that the heavy horse is doomed in time to give way to electricity or other artificial power, but, undoubtedly, such is the case; while the military and pleasure horse will go on forever. In such circumstances, it appears to me that the Government of the different Provinces, and the Federal Government, should devote some of their attention to the encouragement and development of the hunter, saddle horse and carriage horse."

This was the particular paragraph that prompted the greater part of the discussion, although a proposition in the report that racing should be taxed for the benefit of the breeds of horses generally also provoked considerable comment, several speakers agreeing that as the Thoroughbred would make the money, the lighter breeds only should profit from the tax.

President Dixon reviewed the report. He confirmed the suggestion that all the Government help went to encouraging the pure-breeds, the hunter, saddle horse and carriage horse getting nothing. He thought that not only the inspection of stallions, but also of mares was

a necessity. The dams were of more importance than the sires. The Ontario Government's Commission had proven that there were plenty of stallions in the country, but exceedingly few good mares. As the Secretary had said, the efforts of the Society were cramped for lack of the sinews of war. Mr. Dixon praised the Ontario Jockey Club for giving \$1,000 for the encouragement of half-breeds.

Dr. Oille suggested that the Secretary's report opened a wide field for discussion. He thought a committee should be appointed to consider its recommendations. He hoped that the Ontario Jockey Club would insist upon soundness in the stallions before making its awards. Introducing hot blood, irrespective of soundness, was, to the highest degree, undesirable.

Ultimately, on motion of Dr. Oille, seconded by Dr. Young, a committee, composed of President Dixon, Secretary Good, Dr. Oille and W. E. Wellington, was appointed to draft a resolution, urging soundness as a condition, on the Ontario Jockey Club, and to prepare a memorial to the different Governments, advocating that encouragement should be given to the use of registered stallions, by giving prizes at the different fairs, not only for the stallions themselves, but also for their get, whether out of grade or pure-bred mares.

OXFORD COUNTY FARM NOTES.

There has been quite a mortality amongst horses hereabouts. Several have died from inflammation, and some from the effects of the distemper. Feed is going to be scarce here this spring, and, generally, cattle will not go out to the grass in very good condition. One thing has been in our favor; the straw has been exceptionally good. On one field of oats last spring we sowed about 2 lbs. to the acre of rape. We just mixed the seed with the seed grain, and it grew pretty well; and, this winter, the cattle will eat up the straw as greedily as if it were hay. We intend to sow either clover seed or rape with all our grain this year. Our young cattle had quite a bit of feed off the rape last fall; but we had to let them in on to it too soon. If



Mr. A. I. Hickman, Court Lodge, Egerton, Kent, Eng.

Exporter of pure-bred live stock. (See ad., page 521.)

they had been kept off it longer, it would have yielded more feed. Quite a number of farmers are preparing to build silos this coming summer. Cement seems to be the most popular; 14 feet diameter, and from 30 to 40 feet high. Almost every one who has a silo speaks favorably of it.

We have all our winter-made manure out and spread on the land intended for corn or roots. We have practiced this method for quite a number of years, and believe that it works well. Owing to shortage of fodder this year, we did not use much straw for bedding, and the manure is much richer than when much straw is used for bedding. We have our harness all washed and oiled up ready for spring work. We will now get all the seed grain cleaned up and potatoes sorted. Potatoes are now selling from 90 cents to \$1 per bag. The crop last season was very uneven. Some had a good crop, and some very poor. Seed barley is selling at 75 cents and oats at 60 cents per bushel. Live hogs have been selling about 5 cents, lately; this is not nearly enough when grain and feed are so dear. Bran is now \$25 per ton. This is an awful price; more than farmers can afford to pay. There seems to be quite an emptiness for horses, but intending purchasers are holding off until near spring on account of the high price of hay and oats. Hay is selling at from \$15 to \$16. Good young Clydesdale horses are held at from \$200 to \$250. Cows are selling pretty high. I heard of one sale where the cows averaged \$60. D. L.

THE DUNROBIN CLYDESDALE SALE.

The auction sale of imported and home-bred Clydesdale mares and fillies from the stud of Messrs. D. Gunn & Son, Beaverton, Ont., was held at their Dunrobin farm, there, on March 12th, when 23 pure-bred Clydesdales were sold for the good average of \$295 each, the highest price, \$450, being paid by Mr. Geo. A. Brodie, Bethesda, Ont., for the four-year-old mare, Rosalie (imp.). Mr. R. M. Holtby, Manchester, Ont., paid \$425 for the four-year-old mare, Lavender (imp.), and Graham & Renfrew, Bedford Park, took the five-year-old mare, Blossom, at \$420. The attendance was large, the sale admirably conducted, the bidding brisk, and the result speaks well for the prospect of continued good prices for heavy-draft horses. Following is the sale list:

Abigal (imp.), 1904; Geo. A. Brodie, Bethesda	\$430
Blossom (imp.), 1902; Graham & Renfrew, Bedford Park	420
Fancy Fall (imp.), 1904; W. R. Shields, Mt. Pleasant	400
Lavender (imp.), 1901; R. M. Holtby, Manchester	425
Rosalie (imp.), 1903; Geo. A. Brodie	450
Quakeress (imp.); T. H. Legg, Temperanceville	315
Dunrobin Belle (imp.), 1905; G. A. Brodie	195
Trilby (imp.), 1901; Robt. Miller, Stouffville	260
Dunrobin Dolly, 1906; G. A. Brodie	105
Lily (imp.), 1903; R. M. Holtby	120
Dunrobin Katie, 1906; R. Miller	300
Lady Derry (imp.), 1901; R. Miller	275
Scotland's Queen (imp.), 1905; T. H. Legg	275
Dainty Dame (imp.), 1904; Andrew McKay, Woodville	265
Dunrobin Maid, 1906; R. McEachren, Argyle	235
Dunrobin Maggie (imp.), 1905; F. Feasby, Uxbridge	345
Lady Cexhill (imp.), 1904; Graham & Renfrew	290
Jeannie Holmes (imp.), 1905; John Harrison, Beaverton	310
Lady Kinnear (imp.); 1905; T. H. Legg	300
Lady Primrose; W. J. Hodgins, Oak Ridges	225
Lady Cardross; James Torrance, Markham	220
Lady Acme (imp.), 1902; R. Miller	420
Loretta, 1902; John Miller, Wilfred	175

GRADES.

Maud, 1903; George Grant, Beaverton	300
Dunrobin Maude, 1 year; Duncan McKay, Balsam	140

MAKE THE BEST OF THE SITUATION.

Editor "The Farmer's Advocate":

In renewing my subscription to "The Farmer's Advocate," I would be pleased if you could spare me a little space in your valuable paper wherein to make a few remarks re an article in your issue of Feb. 13, entitled, "A Plague Spot in Rural Life." I am a farmer, and live in the Province where we are classed as the most intelligent on earth. Living in that part of Ontario (near Toronto) where I come in constant contact with motor cars and their occupants, I have had ample opportunity to form an opinion on both. Now, I admit that motor cars and motorists are sometimes annoying; but, on the contrary, I have seen enough of them to convince me that, if used properly, the motor car will, and has, proved itself to be an article of utility, and not a "plague" as your correspondent terms it. The motor car has, and will find a place. Not that it will ever displace the horse; I think it will not. In time, our horses will get used to them, as horses around our part are. I have heard our ancestors say, "When the first threshing outfits were run by steam, not only the horses, but the people were afraid," but has not all that worn away? Will it not be the same with the motor car? I could cite many experiences with them; when I have been used first-class and again received a good dusting.

Your correspondent also says that "motor cars have a tendency to drive people off the farms." I fail to recall any instance where people have been driven off on account of motors, and I venture to say there are as many cars travel our roads as any roads in Ontario. Re proposed legislation, I think it an impossibility to legislate as to what way an individual travels. We can have speed limited, etc. Our Legislature is seriously considering bills on this point at present; let us await the result. It is not for your correspondent or myself to say what our Legislature should or should not do. Does it not represent the country? Do we not deem it a capable body of men?

In conclusion, I would say that, considering that we have motor cars, and, in all probability will have them, let us try to accommodate one another, and make friends in place of enemies. FARMER'S SON.

York County, Ont.

FORTHCOMING EVENTS.

May 4th to 9th.—Canadian National Horse Show, Toronto.
May 6th to 9th.—Montreal Horse Show.
May 6th and 7th.—Glasgow National Stallion Show.
June 18th to 20th.—Galt Horse Show, Galt, Ont.
June 18th to 27th.—International Horse Show, Olympia, London, England.
June 30th to July 4th.—Royal Agricultural Society's Show, at Newcastle-on-Tyne.
June 29th to July 9th.—Dominion Exhibition, Calgary, Alta.
July 11th to 17th.—Winnipeg Industrial Exhibition.
July 21st to 24th.—Highland Society's Show, at Aberdeen.

J. H. PATTEN'S HOLSTEIN SALE.

The sale of Holsteins by auction of J. H. Patten, at Paris, Ont., on March 12th, was a very satisfactory success. The lovely day left nothing to be desired. Besides a very large local attendance, the arrival by train of nearly 150 people from all over the Province made up a record crowd. Promptly at 1 o'clock p. m., the beautiful young cow, Pauline Mechthilde De Kol, three years old, was led into the ring, and after a few introductory remarks by the auctioneers, the ball opened with a \$100 bid, which was quickly snowed under by an avalanche of bids, and she was sold in a few minutes for \$250. Next came her dam, that grand cow, Pauline Pet, eleven years old, with \$270 to her credit. Perhaps the sensation of the day was the grand heifer calf, two months and twenty days old, for the snug sum of \$185; she was a beauty. The cattle were in excellent condition, and, under the skillful generalship of the popular and genial Col. Thos. Ingram, ably assisted by Col. Jas. Telfer, the 34 head (26 Holsteins and 8 grades) were sold in just two hours. Twenty-six Holsteins totalled \$3,200, ten of which were under one year old, and a number from a few days to a few weeks old. The twenty females averaged \$147. The sale list is as follows:

Table listing Holstein cattle sales with names and prices. Includes entries like Pauline Pet, Pauline Mechthilde De Kol, Betsy Bobbit, etc.

BULLS.

Table listing bull sales with names and prices. Includes entries like Sir Belle De Kol Posch, Sir Guillemette Posch, etc.

ANNAPOLIS CO., N. S., PROSPECTS.

"A bad winter," so the man says who depends on lumbering or cordwood for part of his yearly income. In fact, for the average Annapolis County farmer, the year has not been a bright one. Apples, upon which the farmer depends too much for his living, have proved a disappointment, both in price and quality.

The great promise of October led to the speculators buying heavily. In November, the bottom went out of the market, and has stayed out. To add to the discouragement, such apples as Baldwins and Greenings have spotted badly in the cellars and warehouses, causing great waste. This is supposed to be due to the warm, moist weather of the first part of the winter. Some of the speculators say their loss will be from \$1.50 to \$2 per bbl.

Hay, also, gave good prices in the first part of the winter, and many of the farmers refused \$15 per ton, expecting it to go to \$20 before spring. Now, these same farmers are trying to sell for \$12 and \$13, and little hay is moving. It is unfortunate also that, in order to have hay to sell at the anticipated high price, many short-sighted farmers have sold off stock, and now we will have a year or two of small manure piles and large fertilizer bills. Where two months ago the butchers were overstocked, they are now scouring the country for beef of any kind.

On account of high prices of feed, the number of swine kept over is smaller than usual, and we hope for good prices for pork this summer.

Butter is bringing 27c. on the Halifax market, so dairying pays, in spite of the high price of feeds.

R. J. MESSENGER.

FEED ROOM ADJOINING SILO.

Am intending to build a cement silo, 14 feet in diameter and 35 feet high. Am proposing to build it about 8 or 10 feet from barn, and to have a room about 8 by 10 for mixing ensilage with cut straw. Could make a chute so that the cut straw could be shoved out from the barn into this room. Am proposing to build this room with cement floor, and the walls to be of cement, with an upper flat or story of frame to hold bran or chop. There are a number of farmers intending to build silos this summer, and those who have convenient silos with mixing-rooms would confer a great favor if they would give us the benefit of their experience through the columns of our great friend, "The Farmer's Advocate." Will a few farmers who have got mixing-rooms handy, please write and tell us all about it? I don't know what we would do without "The Farmer's Advocate." It is an indispensable thing on the farm.

SUBSCRIBER.

RE AUTOMOBILE LEGISLATION.

We are recently favored with a copy of a resolution passed at the West Northumberland Farmers' Institute meeting, held in Cobourg, Ont., March 7th, expressing unqualified approval of Mr. Devitt's bill introduced into the Ontario Legislature to the effect that no motor vehicle shall be run, or be allowed to stand upon any highway in a town, township, or incorporated village or police village during Tuesday, Thursday or Saturday in any week, or between the hours of 9 a. m. and 2 p. m. on Sunday.

The Institute approves of the provisions of said bill inasmuch as the travelling public would then be enabled to use the said highways in marketing their produce on the alternate days of the week without fear of being molested or injured while using said highways by machines which are a menace to our country's welfare, and tend to divert trade into new channels, which is declared to be detrimental to the growth of the neighboring towns and villages, as well as endangering the safety and lives of His Majesty's subjects.

THE PORT PERRY AUCTION SALE.

The Ontario Provincial auction sale of pure-bred Shorthorn cattle, held at Port Perry, on Wednesday, March 11th, under the auspices of the local agricultural society, was a splendid success. The animals offered were of good conformation, and in good order. Considering the money stringency and the scarcity of feed, prices ranged fairly high for males; but females apparently were not in great demand, and all were withdrawn. One pleasing feature of these sales is that the farmers are becoming more interested and attend in large numbers. The curling rink, which is very con-



G. A. Gilroy, Glen Buell, Ont.

President Canadian Holstein-Friesian Cattle-breeders' Association.

venient for the occasion, was packed to its utmost capacity, and bidding was fairly brisk. Auctioneer Geo. Jackson wielded the hammer, and President Wm. Graham acted as ring-master to the satisfaction of all.

Table listing auction sales with names and prices. Includes entries like Daisy's Bruce, Horn, Saltfield, Emperor, etc.

SAVE THE FORESTS.

At the ninth annual convention of the Canadian Forestry Association, which was opened by Sir Louis Jette, Lieutenant-Governor of Quebec, in the Board of Trade rooms, Montreal, on March 12th, the necessity of forest preservation was again emphasized.

President H. H. Price, of Quebec, in his opening address expressed the need of more thorough exploration of the timber to the north of Quebec, Ontario, Manitoba, Alberta and Saskatchewan. He deplored the large shipments of small spruce trees which are sent every year for Christmas decoration from Quebec to the United States. This traffic, he declared, should be stopped.

Referring to the question of an export duty on pulpwood, which has recently been brought prominently to the front by President Roosevelt's proposal to take the duty off wood pulp in return for free pulpwood from Canada, he thought that duties on paper should be lowered, the freight on wood pulp being always a serious factor in its shipment.

In regard to a definite national policy to be advocated by the association, he thought that outlined by Sir Wilfrid Laurier two years since is still the most definite and practical, viz.: that all hills, mountains and plateaus which are the sources of streams and rivers should never be allowed to remain anything else than forests; that these portions should belong to the state; and that where such portions of these watersheds have been transferred to private ownership they should be repurchased for the national domain.

Hon. Mr. Fisher, Minister of Agriculture, in referring to the course the Government is taking re forest preservation, deplored the wasteful and unscientific way in which our forests have been depleted. He considered that the end of the country's forest resources is in sight unless measures are taken to reforest bare spaces. Within the last few years large areas in Western Canada have been set aside for forestation, and he could now make an important announcement, viz.: that the Government has decided to set aside as a forest reserve the eastern slope of the Rocky Mountains, including almost the whole region of the foothills from the boundary almost indefinitely north. This area will be preserved from settlement, but will be, from time to time, cut under strict regulations, so that it will constitute for all time a permanent national asset to the West. He also announced that the Government is taking steps to plant fruit trees in many hitherto treeless and fruitless districts of the far north, which have been proved by experiment to be capable of growing fruit-bearing trees especially suited to such districts.

In regard to the proposal to put an export duty on pulpwood, he thought any argument in favor of this applied equally to pulp itself. He hoped the day would soon come when not only all Canada's pulpwood would be made into pulp, but that the pulp would be made into paper within the Dominion. He saw no reason why Canada should not become the greatest paper-making country in the world. In regard to timber in general, he gave warning that if waste and unscientific cutting is not stopped there will soon be no timber to cut.

Upon the following day Dr. Fernow, Dean of the Faculty of Forestry at the University of Toronto, in addressing the Canadian Club, especially emphasized the fact that permanent prosperity cannot come from disposing of all the country's resources as quickly as possible. Soil and water are our richest treasures, and their waste are threatening the foundation of the Commonwealth. By sacrificing the timber wealth we sacrifice also the soil and water. Referring specifically to the timber wealth, he pointed out that the timbered area of Canada is small, and that the sawmill capacity of the United States is sufficient to get rid of the entire log timber supply of the Dominion in less than fifteen years. The pulpwood industry, he considered, should be carefully managed, so that it might be made not only a valuable resource for the present, but for the future also. A destructive policy is a very foolish one. There is a great danger in the reckless treatment of woodlands, especially in the loss of soil. Upon the other hand, restoration of mismanaged forests is by no means impossible, as has been proved in Germany.

Before closing, the Forestry Association passed a resolution calling on the different Governments in Canada to pass laws looking to the preservation of the forests.

GOOD ROADS ASSOCIATION.

The Western Ontario Good Roads Association will hold their annual meeting in the York County Council Chambers, Adelaide St., Toronto, Tuesday and Wednesday, March 24th and 25th, commencing at 2 p. m. Reduced railway rates are expected.

Dr. Wm. Saunders, for 21 years Director of the Dominion Experimental Farms, has been unanimously elected an honorary member of the Royal Agricultural Society of England.

The Bank of Toronto

Gives to the depositors in their Savings Department

Safety

The Bank has large resources, and conducts only a safe line of business.

Convenience

73 branches in Canada. Every branch has a Savings Department. An easy matter to open an account.

Profit

The Bank adds interest to all Savings balances 4 times a year.

Capital and Reserves, \$ 8,650,000
Assets, - - - 38,000,000

MARKETS.

TORONTO.

LIVE STOCK.

The total receipts of live stock at the City and Junction markets last week amounted to 244 carloads, composed of 4,590 cattle, 2,602 hogs, 987 sheep, 295 calves, and 168 horses. Few finished cattle were on sale at either market. Trade was slow at the Junction on Monday, but kept getting worse as the week advanced. Prices for the common cattle were lower, also, at the Junction, but at the close of the week all grades were selling at lower quotations than for some time.

At the Junction on Monday, 16th, receipts numbered 905 cattle; quality fair; trade good for finished cattle, but slow for half-fat. Export steers, \$5 to \$5.25; bulls, \$3.75 to \$4.50; picked butchers', \$4.75 to \$5; loads of good, \$4.40 to \$4.65; medium, \$4 to \$4.25; common, \$3.65 to \$4; cows, \$3 to \$4.25; milkers, \$30 to \$50 each; calves, \$4 to \$7 per cwt.; sheep, \$4.75 to \$5 per cwt.; lambs, \$7.25 to \$7.50 per cwt.; hogs, \$5.40, fed and watered, and \$5.15, f. o. b. cars at country points.

Exporters.—Last week export steers of the best quality sold at \$5 to \$5.25; medium steers, 1,200 lbs. each, \$4.75 to \$4.90; export bulls, \$3.75 to \$4.25, with a few extra quality at \$4.30 to \$4.50. Butchers'.—Prime picked lots sold at \$4.75 to \$5; loads of good, \$4.40 to \$4.60; medium, \$4 to \$4.30; common, \$3.75 to \$3.90; cows, \$2.50 to \$3.75 per cwt.

Milkers and Springers.—The best milkers sold from \$45 to \$55, with two or three choice quality at \$60 to \$65 each. Veal Calves.—Market strong for good quality. Prices ranged from \$4 to \$7 per cwt.

Sheep and Lambs.—The market, both for sheep and lambs, ruled strong all week. Export ewes, \$4.50 to \$4.75; yearling ewes and wethers for butcher purposes sold at \$5 to \$5.25 per cwt.; rams sold at \$3.75 to \$4.25 per cwt.; lambs of best quality, \$7 to \$7.75 per cwt.; common, \$5.75 to \$6.75 per cwt. Spring lambs are beginning to come forward. G. H. Waller bought from Isaac Payne, of Thamesford, a cross-bred Dorset and Shropshire lamb, that dressed 59 lbs., for \$14. The ruling prices range from \$7 to \$12 each.

Hogs.—Hog prices were 15 cents per cwt. higher; selects selling at \$5.15, fed and watered, and \$4.90, f. o. b. cars at country points.

Horses.—While horses are not selling so much higher, yet there is more life to the trade, and a better demand than has previously prevailed. At the Junction last week about 150 horses changed hands, amongst which were many fine horses in each class. The big horses did not sell any better than they have been. The tall, out-classed, big horse is the hardest kind to dispose of at the present time. The nice tidy 1,300- to 1,400-lb. light drafter or general purpose horses are

selling the best of any just now. The country demand is still the best, and is likely to continue until seeding time arrives. Light drafters sold from \$165 to \$225 each; drivers, \$160 to \$200; serviceably sound workers sold at \$40 to \$95 each. Three Northwest dealers were on the market, as well as many from all over Ontario.

BREADSTUFFS.

Wheat.—No. 2 white, winter, 92c. to 93c.; No. 2 red, 93½c.; No. 2, mixed, 93½c.; Goose, 91c. to 92c.; Manitoba, No. 1 Northern, \$1.21½; No. 2 Northern, \$1.18½; feed wheat, 68c.; No. 2 feed, 62½c.

Barley.—No. 2, 70c.
Rye.—No. 2, 83c. to 84c.
Buckwheat.—No. 2, 67c.

Oats.—No. 2, white, 52c., outside, 53c., on track at Toronto; No. 2, mixed, 49c. to 50c., outside.

Flour.—Ontario patents, 90 per cent., \$3.50 bid for export; Manitoba, special brands, \$6; second patents, \$5.40; strong bakers', \$5.30.

Peas.—No. 2, sellers, 87½c.
Corn.—Buyers for No. 3 yellow, 70c., Toronto.

Bran.—\$25 to \$26, at Toronto, in buyers' sacks.
Shorts.—\$26 to \$27, in buyers' bags, at Toronto.

Oil-cake Meal.—\$1.70 to \$1.75 per cwt.

COUNTRY PRODUCE.

Butter.—Market steady, with prices steady. Creamery, pound rolls, 32c. to 33c.; separator dairy, 28c. to 30c.; store lots, 23c. to 26c.

Cheese.—Market steady, but firm. Prices unchanged at 13½c. for large, and 14c. for twins.

Honey.—Extracted, 11c. to 12½c.; combs, per dozen, \$2.75 to \$3 for choice clover honey.

Eggs.—Market easier. New-laid, 25c. to 26c.; cold-storage, 21c. to 22c.

Potatoes.—Market easier. Car lots of Ontario potatoes sold at 90c. to 95c., on track at Toronto.

Poultry.—Choice, fresh-killed poultry is scarce. Ducks and geese are out of season. Hen turkeys, young, 20c. to 23c.; chickens, 13c. to 15c. per lb.

Beans.—Market firm. Primes, \$1.70 to \$1.75, and \$1.80 to \$1.85 for hand-picked.

Baled Hay.—Timothy, in car lots, on track at Toronto, \$16 to \$17.

Baled Straw.—Car lots of baled straw, per ton, \$9 to \$10, on track at Toronto.

Dried Apples.—5½c. to 5½c. per lb.; evaporated apples, 7c. to 7½c. per lb.

TORONTO FRUIT MARKET.

Receipts from farmers have been large, with prices lower. No. 1 Spits and Baldwins sold at \$2.50 to \$3 per bbl.; Talmans, \$1.50 to \$1.75; Greenings, \$1.75 to \$2.25; onions, \$1.25 to \$1.40 per bag; cabbage, per bbl., \$1.50; cabbage, per ton, \$20.

HIDES AND SKINS.

E. T. Carter & Co., 85 East Front Street, wholesale dealers in wool and hides, report prices as follows: Inspected hides, No. 1, cows and steers, 5c.; inspected hides, No. 2, cows and steers, 4c.; country hides, 3½c. to 4c.; calf skins, 8c. to 9c.; kips, 6c. to 7c.; horse hides, No. 1, each, \$2.75; horse hides, No. 2, each, \$1.75; horse hair, per lb., 25c.; tallow, per lb., 4½c. to 5½c.; lamb skins, 90c. to \$1 each.

TORONTO SEED MARKET.

The William Rennie Co. report the following quotations as their selling prices for cleaned seeds: Alsike, fancy, \$10.50 to \$12.50 per bushel; alsike, No. 1, per bushel, \$9.50 to \$10; red clover, fancy, per bushel, \$13.50 to \$14.50; red clover, No. 1, per bushel, \$12.50 to \$13; alfalfa, per bushel, \$12.50 to \$13.50; timothy, per 100 lbs., \$7 to \$8.50.

CHICAGO.

Cattle.—Steers, \$4.60 to \$6.30; calves, \$3 to \$7; stockers and feeders, \$2.75 to \$4.90.

Hogs.—Choice heavy shipping, \$4.65 to \$4.72½; butchers, \$4.60 to \$4.70; light, mixed, \$4.55 to \$4.60; choice light, \$4.60 to \$4.65; packing, \$4 to \$4.60; pigs, \$3.50 to \$4.10; bulk of sales, \$4.50 to \$4.60.

Sheep and Lambs.—Sheep, \$1.50 to \$6.50; lambs, \$6 to \$7.30; yearlings, \$6.25 to \$6.85.

MONTREAL.

Live Stock.—Shipments of live stock from Portland, Me., and St. John, N. B., amounted to 1,193 head of cattle, for the week ending March 7th, against 2,053 head the previous week. Offerings of cattle on the local market showed a considerable decrease last week, as compared with some weeks past. During the Lenten period, the consumption of meat customarily shows a large falling off in Montreal. The quality of the beef offered, however, showed a considerable improvement, and the proportion of choice cattle was larger than usual. On the whole, prices continued about the same as before, being 5c. to 5½c. per lb. for choice heaves, 4½c. to 5c. for choice, 4½c. to 4¾c. for good, 3½c. to 4½c. for medium, and 2½c. to 3½c. for inferior and common animals. The supply of sheep and lambs was small, and demand was good, all round; while prices held firm. Good to choice lambs ranged in price from 6c. to 6½c., fair being as low as 5½c. Choice sheep brought 4c. to 4½c., lower grades ranging down to 3½c. Calves are now coming along again, and supplies will shortly be large. They sold at \$2 to \$6 each, according to quality and size. For the first time in several weeks, the market for hogs showed a firmer tone, though prices held about steady, at 5½c. to 5½c. per lb. Demand was good.

Horses.—A few sales lately to local firms, which are beginning to provide for their spring requirements. There have also been a number of shipments of smaller horses, of the cheaper variety, to Quebec and vicinity, mainly for the use of farmers. Heavy-draft horses, 1,500 to 1,700 lbs., \$250 to \$300 each; light-draft, 1,400 to 1,500 lbs., \$225 to \$275 each; good blocks, 1,300 to 1,400 lbs., \$200 to \$225; express horses, \$150 to \$225; common plugs, \$50 to \$75 each, and choice saddle and carriage horses, \$300 to \$350 each.

Dressed Hogs.—Fair demand for dressed hogs last week, and prices on the firm side. Abattoir-dressed, fresh-killed stock sold readily at 7½c. to 8c. per lb., and country-dressed sold at about ½c. less. Provisions were in good request, considering the period of the year. Lard, compound, 8½c. to 9½c. per lb., pure being 11½c. to 12c.

Potatoes.—Prices experienced a slight decline. Demand has been poor of late, although showing an improvement toward the close of last week. Customers in the West have been rather oversupplied, and supplies have been ample here. A car was bought at 80c. per 90 lbs., but the range was from 80c. to 90c. These sold over again at 95c. per 90 lbs., on track, in loads, and in small lots, delivered into store, at \$1.10 per bag of 90 lbs.

Eggs.—There appears to have been an increase in the quantity of fresh-laid eggs offering in the city. Prices of these were slightly lower last week, about 28c. in lots, and 30c. per doz. in single cases. It is thought prices would have fallen off further had it not been for the scarcity of cold-store and limed stock. This quality advanced slightly, selling at around 23c. On Monday, 16th, reports indicated a break in the price; new laid being 25c.; limed, 20c.; cold-storage, 19c.

Butter.—Market firm last week, although prices experienced very little alteration. Sales of grass creamery were being made to grocers at 33c. per lb., single packages costing 34c. and sometimes 35c. per lb., for small sizes. In a wholesale way, 31c. to 32c. was realized. Dairies and rolls are quoted at 26c. to 28c. per lb. On Monday, 16th, prices were lower on account of receipts of Western creamery wholesaled at 32c.; Townships, 31c.; small packages, 33c.

Cheese.—Stocks in the whole of Canada, unsold, are said to be only about 50,000, so they are hardly worth talking of. However, there is very little demand for them, and the only sale heard of for some time was one of Ontario colored, at 13½c. Colored is usual-

ly quoted at 13½c. to 13½c., and white at 13c. to 13½c.

Grain.—Good demand from England for Manitoba wheat, but prices are a little too high for export, millers paying steep figures for milling grades in the West. Good local demand for oats. Prices steady at 53c. per bush., in store, carloads, for Eastern Canada No. 2 white, 49c. to 49½c. for No. 3, 48c. to 48½c. for No. 4, 46c. to 47c. for rejected, and 49½c. to 50c. for Manitoba rejected.

Flour and Feed.—The flour market continued steady, but demand appeared to be not quite so active as during the previous few weeks. Nothing doing for export. Manitoba spring-wheat patents, \$6.10 per bbl., in bags, and seconds, \$5.50. Bran and shorts have been in request for feeding purposes, and prices held steady at \$23 per ton for bran, in bags, and \$24 for shorts. Gluten meal is quoted at \$1.50 per 100 lbs., exclusive of bags. Ground oil cake is \$1.70 per 100 lbs.

Hay.—Market rather undecided. Supplies ample, and prices showed little alteration. No. 1 timothy was a little on the scarce side, and dealers paid \$15.50 to \$16.50 per ton, carloads, on track, No. 2 being \$14 to \$15, clover-mixture being \$12 to \$13, and clover, \$11 to \$11.50.

Seeds.—Demand for all sorts of seeds is active, and dealers are anticipating an advance in price. Meantime, sales are being made as follows: Red clover, \$22.50 to \$24 per 100 lbs.; alsike, \$17 to \$20; timothy, \$6.25 to \$7.50; alfalfa, \$21 to \$22 per cwt.

Hides.—Market dull, and quality is poor. Calf skins advanced 1c. per lb., dealers paying 8c. per lb. for No. 2, and 10c. for No. 1; for beef hides, they are paying 5c., 6c. and 7c. per lb., respectively, for Nos. 3, 2 and 1, and selling to tanners at ½c. advance. Sheep skins are 75c. to 80c. each, and horse hides, \$1.25 for No. 2, and \$1.75 for No. 1. Tallow is 1c. to 3c. per lb. for rough, and 5c. to 5½c. for rendered.

BUFFALO.

Cattle.—Prime steers, \$5.65 to \$6. Hogs.—Heavy and mixed, \$5.05 to \$5.10; Yorkers, \$4 to \$5.10; pigs, \$4 to \$4.60; dairies, \$4.90 to \$5. Sheep and Lambs.—Lambs, \$5 to \$8; wethers, \$6.25 to \$6.50.

BRITISH CATTLE MARKET.

London.—London cables, 10½c. to 12½c. per lb., dressed weight; refrigerator beef, 9c. per lb.

GOSSIP.

TOO LATE FOR CORRECTION IN THIS ISSUE.

We are in receipt of a change of advertisement of Shorthorns from Messrs. John Lee & Sons, Highgate, Ont., who call our attention to the omission of their post-office address in their advertisement, which is as above, and will so appear in future issues.

Mr. W. F. Stephen, Huntingdon, Que., ordering a change in his advertisement of Ayrshires, writes that his Springbrook herd of Ayrshires averaged 7,000 lbs. each of milk, having an average test of 3.9 per cent. of butter-fat, during the years 1904-05-06 and 1907, and that he has a few young bulls of 1907 for sale, and is hooking orders for calves of this year.

At the London (Eng.) Shire Horse Show and Sale last month, 652 stallions, mares and geldings were entered for competition, as high as 120 being shown in one of the 18 classes, in which 11 cash prizes were given, and commendation cards up to over 100, the total amount of cash prizes awarded being over \$11,000. The awards given were won by the progeny of 150 sires. The outstanding leader in the competition of successful sires was Lockinge Forest King, whose get won 22 class awards, and 11 of lower merit. In one class, two-year-old fillies, six of his get held the six first places. Dunsmore Jameson follows in second place, and Tatton Friar, third. At the auction sale on the show ground, 159 head sold for an average of \$558, the highest price being \$2,625.



**Life, Literature
and Education.**

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

PEOPLE, BOOKS, AND DOINGS.

Opium-smoking is said to be acquiring an alarming popularity in the French Navy.

An interesting biography of Thomas Alva Edison, the Canadian boy who reached fame and honor in the United States, has been issued recently. It is entitled "Sixty Years of an Inventor's Life."

A vase of beautiful workmanship, with inscriptions tending to show that it was the property of Cleopatra, has been discovered at Anibeh, Egypt, by the Randall MacIver expedition, sent out by the University of Pennsylvania.

The Department of Research in Terrestrial Magnetism of the Carnegie Institution, of Washington, has just completed a magnetic survey of the Pacific Ocean, on which it has been engaged for several years. The result will be of much practical benefit to navigation, as, because of the information gained, the charts for the Pacific will be greatly improved.

The Countess of Warwick, who has recently become a determined apostle of Socialism, is writing a book on society and court-circle life in England. "In it," she says, "I intend to give a picture of society as I have known it. I shall be fair, not hypercritical, but I intend fearlessly to tell the truth. . . . I am entirely adrift from my old existence, and can look at things in a cold, clear light from outside."

THE NEXT SERIAL STORY.

It has been our aim to secure as serials, stories which are new, as well as interesting—stories which will prove acceptable to all our readers, because they have not been on the market long enough to have circulated very widely in book form. We accomplished our purpose when we secured the serial rights of "Carmichael" for "The Farmer's Advocate and Home Magazine," and are doing it again when we present you for serial reading in 1908 "Power Lot," by Sara McLean Greene. This is one of the most interesting of the '907 works of fiction.

SELECTIONS FROM THE POETS.

The Law of the Yukon.

[By Robert W. Service, the young Canadian clerk in the Bank of Commerce, White Horse, The Yukon, whose book of poems, "Songs of a Sourdough," has attracted much attention.]

This is the law of the Yukon, and ever she makes it plain:
Send not your foolish and feeble; send me your strong and your sane—
Strong for the red rage of battle, sane for I harry them sore.
Send me men grit for the combat, men who are grit to the core;
Swift as the panther in triumph, fierce as the bear in defeat.

Sired of a bull-dog parent, steeled in the furnace heat.
Send me the best of your breeding, lend me your chosen ones;
Them will I take to my bosom, them will I call my sons;
Them will I gild with my treasure, them will I glut with my meat;
But the others—the misfits, the failures—I trample under my feet.
Dissolute, damned, and despairful, crippled and palsied and slain,
Ye would send me the spawn of your gutters—Go! take back your spawn again.

"Wild and wide are my borders, stern as death is my sway;
From my ruthless throne I have ruled alone for a million years and a day;

Hugging my mighty treasure, waiting for man to come,
Till he swept like a turbid torrent, and after him swept—the scum.
The pallid pimp of the dead-line, the enervate of the pen,
One by one I weeded them out, for all that I sought was—Men.

One by one I dismayed them, frightening them sore with my glooms;
One by one I betrayed them unto my manifold dooms.

Drowned them like rats in my rivers, starved them like curs on my plains,
Rotted the flesh that was left them, poisoned the blood in their veins,
Burst with my winter upon them, searing forever their sight,
Lashed them with fungus-white faces, whimpering wild in the night;

Staggering blind through the storm-whirl, stumbling mad through the snow,
Frozen stiff in the ice-pack, brittle and bent like a bow;
Featureless, formless, forsaken, scented by wolves in their flight,
Left for the wind to make music through ribs that are glittering white;

Gnawing the black crust of failure, searching the pit of despair,
Crooking the toe in the trigger, trying to patter a prayer;
Going outside with an escort, raving with lips all afoam,
Writing a cheque for a million, driving feebly of home;

Lost like a louse in the burning, . . . or else in the tented town,
Seeking a drunkard's solace, sinking and sinking down,
Steeped in the slime at the bottom, dead to a decent world,
Lost 'mid the human flotsam, far on the frontier hurled;

In the camp at the bend of the river, with its dozen saloons a-glare,
Its gambling dens a-riot, its gramophones all a-blare;
Crimped with the crimes of a civv, sinned and bridled with lies,
In the hush of my mountain vastness, in the flush of my midnight skies,
Plague spots, yet tools of my purpose, so natheless I suffer them thrive,
Crushing my Weak in their clutches, that only my Strong may survive.

But the others, the men of my mettle, the men who would 'stablish my fame
Unto its ultimate issue, winning me honor, not shame,
Searching my uttermost valleys, fighting each step as they go,
Shooting the wrath of my rapids, scaling my ramparts of snow;
Ripping the guts of my mountains, looting the beds of my creeks.

Them will I take to my bosom, and speak as a mother speaks.
I am the land that listens, I am the land that broods,
Steeped in eternal beauty, crystalline waters and woods.
Long have I waited lonely, shunned as a thing accurst,
Monstrous, moody, pathetic, the last of the lands and the first;

Visioning camp-fires at twilight, sad with a longing forlorn,
Feeling my womb o'erpregnant with the seed of cities unborn.
Wild and wide are my borders, stern as death is my sway,
And I wait for the men who will win me—and I will not be won in a day;
And I will not be won by weaklings, subtle, suave, and mild,
But by men with the hearts of vikings and the simple faith of a child;

Desperate, strong, and resistless, unthrottled by fear of defeat,
Them will I gild with my treasure, them will I glut with my meat.
"Lofty I stand from each sister land, patient and wearily wise,
With the weight of a world of sadness in my quiet, passionless eyes;
Dreaming alone of a people, dreaming alone of a day,
When men shall not rape my riches, and curse me and go away;
Making a bawd of my bounty, fouling the hand that gave—
Till I rise in my wrath and I sweep on their path and I stamp them into a grave.

Dreaming of men who will bless me, of women esteeming me good,
Of children born in my borders, of radiant motherhood,
Of cities leaping to stature, of fame like a flag unfurled,
As I pour the tide of my riches in the eager lap of the world."

This is the Law of the Yukon, that only the Strong shall thrive;
That surely the weak shall perish, and only the Fit survive.
Dissolute, damned, and despairful, crippled and palsied and slain,
This is the Will of the Yukon—Lo, how she makes it plain!

as a sailor; became successively captain of a small vessel, the owner of a small fleet, and of estates in France, Pennsylvania, Virginia and Louisiana, and finally was made Commodore Audubon of the Imperial Navy. In Louisiana he met the beautiful Anne Moynette, whom he married, but who met her death before many years had passed, during a negro uprising in St. Domingo. Of the five children left thus motherless, the youngest son, John, was taken to France, and before long placed in charge of a second wife, who proved a most adoring stepmother, and who seems to have encouraged the lad's propensities for roaming the fields and woods collecting specimens, to the evident neglect of more formal lessons.

Upon returning from his voyages, however, the elder Audubon found little to praise in this slipshod method of education. He determined that the boy should have schooling, and accordingly took him to Rocheport, where he left orders that he should be put through a strict course of study, especially in mathematics. After more than a year of enforced application, the youth escaped. He had learned to draw, to dance, to play well upon the flute, flageolet and guitar—and he had completed over two hundred drawings of the birds of France.

His father's next proposition was that he should join the army of Napoleon, but war had no attraction for the young naturalist, hence he was despatched, as useless younger sons have so often been, to America, where he was put in charge of the Pennsylvania estate, Millgrove Farm.

Here he found an environment just to his taste. He gloried in the gloom and grandeur of the vast American forest; past the door of his house, which he soon transformed into a veritable museum of stuffed birds and animals, the Perkiomen creek gurgled, expanding in a quiet spot into a restful mill-dam, "about which the peewees were accustomed to build," and but a short distance away lived Lucy Bakewell, with whom the young Frenchman straightway fell in love. "Hunting, fishing and drawing," he wrote, "occupy my every moment. Cares I know not." Later he recorded that Lucy Bakewell taught him English while he taught her drawing. . . . Audubon was described at this time as being a young man of unusually prepossessing appearance, with a magnificent physique and marvellous powers of endurance; a ruddy face, and luxuriantly curling hair which he wore over his shoulders. He was also very much of a "young buck," as Thackeray would have said, carrying his extravagance so far that he wore frilled shirts and satin breeches, even on his hunting expeditions, all of which, no doubt, since the proceeds of the estate enabled him to afford such plumage, damaged him nothing at all in the eyes of the fair Lucy.

Of his residence at Millgrove, many incidents are told. Upon one occasion, when returning with a party from hunting, he met with an accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

accident and an escape which has, perhaps, never been paralleled. The party was proceeding gaily over the ice on the Perkiomen, when suddenly Audubon disappeared through an

BIOGRAPHICAL SKETCHES.

John J. Audubon.

(Born in Louisiana, May 4th, 1780; died at New York, January 27th, 1851.)

John J. Audubon, better known simply as "Audubon," was of French extraction. His grandfather was a poor fisherman of the Village of Sable d'Olonne, the reason for whose poverty is not far to seek when it is known that, of his very numerous family, "twenty-one grew to maturity." The twentieth born of this overwhelming progeny was the father of Audubon; but he was also a man who attained some note in the world other than having been the procreator of a genius.

Of the chief event of his boyhood, this Audubon has written: "When I was twelve years of age, my father provided me with a shirt, a dress of warm clothing, his blessing, and a cane, and sent me out to seek my fortune. . . . Shipping at Nantes as a boy before the mast, the lad roved about from place to place, attained proficiency in his profession

air-hole, only to be thrown, at some distance further down the creek, into another, to the edge of which he clung until rescued. He was drawn out to safety by his companions, but so bruised and chilled that he was invalidated for three months.

After various trips to France, he finally returned with a partner named Rosier, with whom he engaged in trading ventures further west, along the Mississippi. Having married Lucy Bakewell, he ultimately settled at Louisville; but fortune was not to come to him through trading, although Rosier waxed rich upon it. Before long the partnership was dissolved, and for many years the history of the Audubon family was one of frequent migrations, and equally frequent business ventures, most of which proved disastrous. Finally, Mrs. Audubon decided to take pupils, while her husband earned a precarious living by drawing portraits and painting pictures of the things that he saw in his journeyings through the woods; but, although fortune seemed then at its lowest ebb, a new purpose had arisen which was to send a ray of hope into the gloomiest days.

During all these years, Audubon had never given over the habit of studying nature, especially birds and animals. In his journal, which he kept assiduously during many years, he has recorded all sorts of observations in regard to them, hailing the finding of a new species as an event of his life. Meantime, his drawings of birds were accumulating, and he seems to have recognized in them a new element of strength unknown to other portrayers who drew chiefly from stuffed models. Possibly this revelation brought to him the idea of publishing a book of illustrations, "The Birds of America," which, in its completeness, its "life," its atmosphere of the forest, should be different from anything that the world had known before. At all events, from the moment of its inception, Audubon lived for no other purpose. With infinite care he perfected his drawings; and it is told of him, in illustration of his tremendous patience and enthusiasm, that he was sometimes known to spend the greater portion of two or three weeks lying motionless on one spot in the woods, in order to observe the habits of some nesting bird.

In order to find new species, it was necessary for him to visit every latitude, hence he roamed up and down through the Eastern States, from Florida to Canada, subsisting he cared not how, provided he might add to his beloved drawings. In the summer of 1824 he visited Niagara, almost destitute, and his journal entry for that night of August 25th is a strange medley, in one sentence extolling the wondrous majesty of the Falls, the sight of which, he said, filled him with awe; in the next telling simply, but not hopelessly, of his want of money: "Went to bed at night," he said, "thinking of Franklin eating his roll in the streets of Philadelphia; of Goldsmith travelling by the help of his musical powers, and of other great men who had worked their way through hardships and difficulties to fame, and fell asleep, hoping, by persevering industry, to make a name for myself among my countrymen." Fame, indeed, seemed by no means a matter of little moment to Audubon. Over and over again in his journal and in his letters to his wife, he speaks of his desire and hope to attain it.

From Buffalo, he embarked on a schooner to Erie, sleeping on the deck; thence to Philadelphia, and back, almost in rags, to the South. Still undaunted, he wrote: "The spirit of contentment which I now feel is strange. It borders on the sublime; and, enthusiast or lunatic, as some of my relatives will have me, I am glad to possess such a spirit."

But better days were about to dawn. Encouraged by the artist Sully, by the naturalist Prince

Charles Buonaparte, by the ornithologist Wilson, and others, he had gained in confidence, and soon, by means of the proceeds of a dancing-class and the sales of some pictures in New Orleans, augmented by some money lent him by his wife, he was enabled to go to England, where he planned to have his plates engraved. After holding a series of exhibitions in the cities of England, finding in some places little recognition and in others unbounded enthusiasm, he finally made his way to Edinburgh, where he showed his paintings to Lizars, the engraver of Selby's birds. "My God," exclaimed Lizars, "I never saw anything like these before!"

Notwithstanding this forceful praise, there are few who would have undertaken the burden which Audubon now essayed, viz., to have his plates engraved in colors, in a series of large and expensive numbers, whose publication alone would cost him over \$100,000—this, without so many pence in his pocket.

Nevertheless, the work was begun, and, before long, armed with a prospectus, Audubon undertook to secure subscribers for his book. He was received by the nobility, and invited to various functions, which struck him with all the interest of novelty. Of a dinner in Edinburgh, he wrote: "Invited to dine with the Antiquarian Society at the Waterloo Hotel. Met the Earl of Elgin, who was very cordial. The dinner was sumptuous, the first course being all Scotch dishes—a novelty to me—and consisting of marrow-bones, codfish-heads stuffed with oatmeal and garlic, black pudding, sheep's heads, etc."

For many succeeding months his journal consists of such entries, of observations on the famous people he met, notably Sir Walter Scott; Sir Thomas Lawrence, the famous artist; and Baron Rothschild, for whom he entertained the most supreme contempt; and of accounts of his efforts to obtain subscriptions to his great work. The people of England were, as a rule, responsive, yet he found rough sailing, chiefly because of a strike of the colorists, which necessitated much delay, and the removal of the work from Edinburgh to London. "I am so completely out of spirits," he wrote, on one occasion, "that I have several times opened my book (his diary), held the pen, and felt anxious to write; but all in vain; I am too dull, too mournful. I wish I were out of London."

Then, finally, on July 2, 1828, comes the triumphant entry: "The king! My dear book! Had my work presented to His Majesty by Sir Walter Waller, K. C. H. . . . His Majesty was pleased to call it fine, and permitted me to publish it under his approbation and protection. . . . All my friends speak as if a mountain of sovereigns had dropped in an ample purse at once—and for me!"

After this follows a long record of trips to engage subscribers in England, America and France, where, as he remarked, the people were accustomed to say, "Fine, very fine! But what a price!" He sold very few volumes in France.

Meanwhile, the volumes issued slowly, one by one, and, as his plates neared exhaustion, he found it necessary to discover new birds, and make new plates for succeeding volumes. This called for new journeying, and he accordingly traversed Eastern Canada, Newfoundland, and the Labrador, of all of which he has written, with his usual entertaining attention to detail. He also began writing a copious Ornithological Biography of the Birds of America, as a sequel to his book of plates. Writing at the Labrador at this time he says: "July 6. Thermometer 48 degrees. At noon my fingers were so cold that I could no longer hold my pencil to draw, and was compelled to go on shore for exercise. The fact is I am growing old too fast, alas! I feel it, and yet work I will, and may God grant me

life to see the last plate of my mammoth work finished."

The winter of 1836-37 he spent in the south, where, with Dr. Bachman, he began the studies in Natural History which led to the publication, at a later date, of the "Quadrupeds of America." The next summer he went again to Scotland, where he continued this work and finished the drawings for the Birds of America. In the following year he returned to America with his family and settled in New York, where, except for one last journey to the Western States in 1843, he spent the remainder of his days, chiefly at his home on the Hudson, afterwards named, with its vicinity, Audubon Park.

But his health had become broken, and, worse than all, an incurable weakness had attacked his vision. Little by little his sight left him, and, from 1844, his eyes which had seen so much were forever closed to the world. His mind, too, gave way, and he became like a child, wandering about the gardens, and constantly tended by his faithful wife. He died on January 27, 1851.

OUR LITERARY SOCIETY.

Selections from Essays on "What Constitutes Success."

"He has achieved success who has filled the position in which he is placed to the best of his ability, whatever that position may be, however humble or difficult; who has overcome temptation to do evil, in whatever form; who has been able to control his temper under most trying circumstances; who has lived, as far as possible, for the good of mankind, and who has won the respect of intelligent men and the love of all with whom he came in contact; who has controlled his daily life in such a way that someone may be encouraged and benefited thereby; who has displayed patience and perseverance under trials and difficulties; who has never failed to express his appreciation of earth's beauty; who could see the good in others, and make, not mar, the life of his fellow; who has accomplished his task, and whose memory has been revered; who has been the means of rescuing even one soul from destruction; who has been faithful unto death. 'He shall receive a crown of life!'"

S. D.
Halton Co., Ont.

The successful man is he whose aims in life are worthy of a man, and who achieves them. To develop a fine character, gentle, good, honest, useful, lovable, and contented (but not of the contentment that rules out the purpose to better that lot as God may enable him). This is open to the poorest, and most humble, and he who attains it makes a success, though he die poor. He has gained what he strove for, and that is essentially a success.

R. E. NIXON.

Middlesex Co., Ont.
[Will this writer kindly send his or her address?]

The man who does his best, though his work be humble, may as truly win success as he who gains the applause of many. But, alas, how many, through indolence and vice, fail to do their best!

Intellectual and moral attributes take precedence over material things, hence the structure of a noble character and worthy endeavor must ever constitute the highest elements of success. The acquisition of wealth or the attainment of power may be a blessing, or it may prove a curse to the individual and to the community.

While it is true that many industrial undertakings require large capital for their successful prosecution and completion, yet it is not essential to success that the capital be in the possession of a single individual.

The things essential to success are: Purpose, high ideal, noble and per-

sistent effort, prudence, and integrity of character. The outgrowth and fruit of these attributes are the generous thought, the kind word, the helping hand, energy and thoroughness in our work, and honesty in dealing with others. These are the foundation-stones upon which is built genuine success in life. These form not only the basis, but also the constituent elements of a superstructure that shall endure; these build for permanent success and happiness—the highest goal of man.

Kent Co., Ont. W. J. WAY.

Current Events.

An electric street-car service has been inaugurated in Shanghai.

It is rumored that China is about to spend \$50,000,000 in naval equipment.

Four hundred tribesmen have been slain in a conflict with Italian troops in Italian Somaliland.

Ontario will contribute \$2,000 to send a team of athletes to compete at the Olympia games in the Old Country.

Prof. Alexander Graham Bell's new airship, "Redwing," flew over 318 feet in its first test, at Hammondsport, N. Y.

The estimated expenditure for Ontario for 1908 amounts to \$7,501,875.67, exclusive of the salaries of Cabinet Ministers.

The Minister of Education for Ontario will henceforth require fire drills to be practiced in all the schools of the Province.

It is understood that Mr. Justice Mabee, of the Ontario High Court, will succeed the late Judge Killam as a member of the Railway Commission.

The contract for building the first hundred miles of the G. T. P. in British Columbia, from Prince Rupert eastward, has been awarded to Messrs. Foley Bros., Larsen and Stewart.

The steamer Mauretania has beaten her former trans-Atlantic record by 2 hours 36 minutes, having accomplished her last trip from Sandy Hook to Daunt's Rock in five days and five minutes. Her average speed for the distance was 24.42 knots an hour.

In the report of the Royal Commission, appointed to enquire into the cause of the Quebec Bridge disaster, which was recently presented to Parliament, the blame of the breakage has been placed upon basic defects in the design of the structure, due to errors in judgment on the part of the engineers.

NEGROES AND MATRIMONY.

Governor Vardaman, of Mississippi, tells an amusing instance of the negro's attitude toward matrimony. A darky clergyman in the State named had married two negroes, and after the ceremony, the groom asked: "How much you charge fo' dis?" "I usually leave that to the groom," was the reply. "Sometimes I am paid five dollars, sometimes ten, sometimes less." "Five dollars is a lot o' money, pahson," said the groom. "Ah'll give you two dollahs, an' den ef ah finds ah ain't got cheated, ah'll give yo' mo, in a monf." In the stipulated time, the groom returned. "Pahson," said he, "dis here arrangement's a kind o' speclashun, an' ah reckon youse got de worst of it. Ah figgers that yo' owes me a dollah an' seventy-five cents."

The Ingle Nook.

Puff Paste—Tomato Marmalade.

Dear Dame Durden,—We have taken "The Farmer's Advocate" for a number of years, and it is read with interest by each member of the family. I have been greatly helped by the "Quiet Hour" page, also by the many useful recipes and suggestions. I think it almost a year since a recipe appeared in your column for puff paste. I cut the article out, intending to paste it in my cookbook, but somehow had lost it. I have tried several times to get the article, but so far have failed. I, therefore, ask you, as a favor, to publish it again.

I should like to contribute something to the Ingle Nook, but find that most of my cake and pudding recipes have been already given. However, here is one which has not yet appeared, and which is very good:

Ripe Tomato Marmalade.—Peel tomatoes without scalding. To every pound of tomatoes, add one pound of sugar, and three or four lemons sliced very fine, leaving out seeds. Boil lemons and tomatoes until fine; then add sugar. Be very careful to stir often, as it will scorch very quickly while getting thick.

FARMER'S WIFE.
Lanark Co., Ont.

The following is probably the puff-paste recipe referred to: Put 1 lb. flour and $\frac{1}{2}$ lb. butter in a chopping bowl, having both ice cold. Chop with a chilled chopping knife, until the butter is the size of small peas. Make a hole in the center of the mixture, and put in a small cup of iced water. Mix lightly with a chopping knife to a stiff paste. Turn out and roll with a chilled rolling pin. Fold in three, and roll again. Repeat three times, always turning the end of the roll towards you. Keep on ice till used.

From a New Chatterer.

Dear Dame Durden,—I am one of your many interested readers of the Ingle Nook, and would like to say I have received many useful suggestions from "The Farmer's Advocate," although I have never taken a peep in at the cosy fireside before. I have often felt like drawing my chair up and having that much-talked-of cup of tea, but will not stay long enough this time. I am sending a scroll pattern for a rug and a pattern for footing stockings, which is simply done, and very satisfactory; also a recipe for carrot pudding, which is excellent. I would like if anyone could give me a good recipe of Spanish bun.

Carrot Pudding.—One cup grated carrot, 1 cup grated potato, 1 cup suet (chopped fine), $1\frac{1}{2}$ cups brown sugar, 3 cups raisins, 2 cups flour, 1 teaspoon soda, salt and spice to taste. Steam until cooked. Serve with sauce.

A VALENTINE.

Very many thanks for the patterns, the more especially since you had to go to so much trouble in cutting them out. Thanks, also, for the pudding recipe.

For Spanish Bun: Cream together $\frac{1}{2}$ of a cup butter and $1\frac{1}{2}$ cups brown sugar. Add 4 eggs (beaten light), $1\frac{1}{2}$ teaspoons nutmeg, and $1\frac{1}{2}$ teaspoons cinnamon; then beat in $2\frac{1}{2}$ cups flour in which 2 teaspoons baking powder have been sifted. Bake in one layer, and ice with the following: One cup brown sugar, $\frac{1}{2}$ cup water, boiled until it hairs. Stir in the beaten white of an egg and cinnamon to flavor.

Another Scroll Pattern.

Miss Nellie Sutherland, Bruce Co., Ont., very kindly sent another scroll pattern, which, however, is too complicated to be enlarged from so small an outline as we could give in our journal. Will "Maple Leaf" kindly send her name and address as soon as possible?

Filling Cracks in Floor.

J. H. S., Prince Edward Co., Ont., asks how to fill cracks in a floor. Soak newspapers in a paste made by boiling a pound of flour in three quarts water, and adding a teaspoon of alum. Mix to about the same consistency as putty and fill cracks, forcing the mixture in with a knife. When dry, paint the same color as the rest of the floor.

Dim Lamps.

Dear Dame Durden,—You have so often asked us to bring our household difficulties to your corner, and I have noticed that those who do generally get satisfactory answers; so I have decided to come with one of my troubles.

I have two lamps which cause me a good deal of annoyance. They have fairly large bowls, and when filled with oil they give a good light; but as soon as the oil burns down to about an inch from the top, the light will gradually die down. About two years ago I noticed a little article on the same subject in another department of "The Farmer's Advocate," and it said there that if the felt lamp wicks were used the difficulty would be overcome. Our merchants here never heard of felt wicks, so I have been

possible a felt wick might be some improvement, for being finer in texture than the ordinary wick, it might be able to raise the oil a little higher; but even the felt would have its limiting height."

Rennet for Cheese.

Dear Dame Durden,—I do not know if you are the one I should write to or not; but if you cannot give me the desired information, someone else in the office will be able to, I have no doubt.

I want to make some homemade cheese. I have a good recipe, can make it all right, but I want to know what kind of rennet cheesemakers use. I sent to Windsor to the drug store; they had nothing but rennet tablets (ten in a bottle) for making junket; use one to a quart. I suppose they would make cheese, but would be very expensive. It would take a good many bottles to make a five-pound cheese.

Then, I saw in Eaton's catalogue extract of rennet, or wine of rennet, so I got a bottle. The recipes on it are all for fancy dishes, custards and the like, a teaspoonful to a quart; so please tell me if it is right, or what is? Then, what do they use for coloring? Will Wells & Richardson's butter color do, and how much for each gallon of milk, also the quantity of rennet for a gallon? I take great delight in reading "The Farmer's Advocate" and the Home Department in particular.

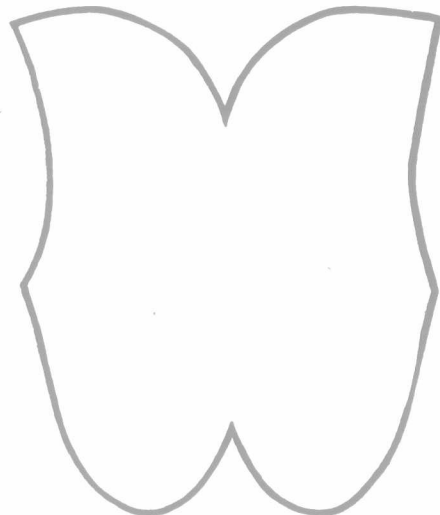
ESSEX FARMER'S WIFE.

Essex Co., Ont.

There are several brands of rennet which are used by cheesemakers, the principal ones being: Hansen's, Royal Danish, Gold Medal, Blumaphals, etc. Wells & Richardson's butter color will not do to color cheese, as it is put up in oil, and acts almost entirely upon the fat, and very little on the casein or curd. The commercial brands of cheese color are Hansen's, Bretts', and several others.

The amount of rennet to use in making cheese is between three and four ounces per 1,000 lbs. of milk. About two tablespoonfuls make one ounce, therefore it would require about eight tablespoonfuls of commercial rennet to coagulate 1,000 lbs. of milk; it would then require about one tablespoonful of rennet to coagulate 100 lbs. of milk.

From one ounce to an ounce and a half of commercial cheese color is required to color 1,000 lbs. of milk, or about two and one-half tablespoonfuls. Now, it requires about four teaspoonfuls to make one tablespoonful; therefore, it would



Pattern for Footing Stockings.

Draw on paper to proper size and cut out.

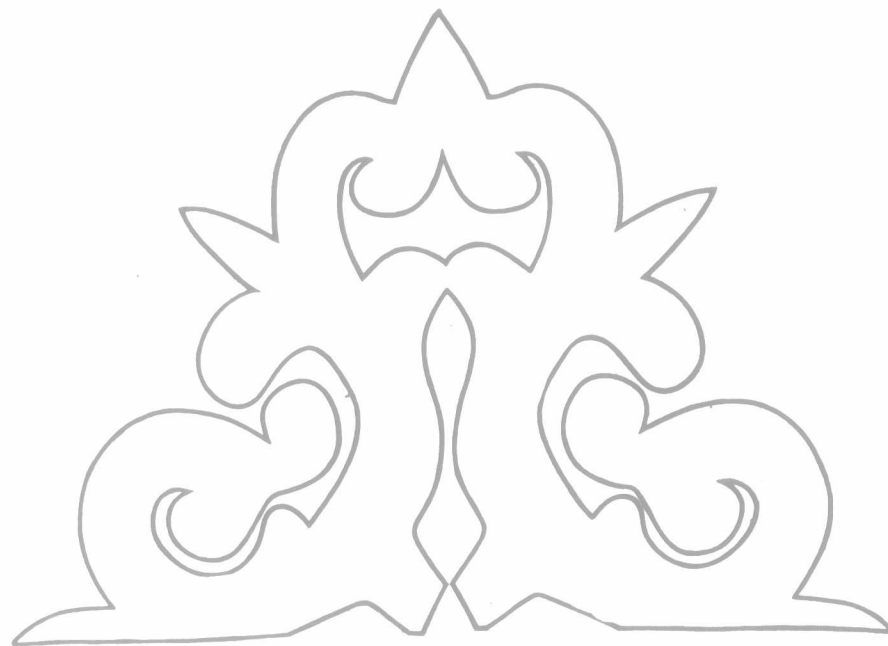
unable to try that remedy. I have tried short and long wicks, old and new burners; burners with glass tops and burners that work all right in other lamps, and always with the same result.

So, if you, or any of your numerous readers, can tell me what is the trouble and how to remedy it, I shall be greatly obliged.

AUNT MARJORIE.

Wellington Co., Ont.
I have referred this question to Prof. Day, of the O. A. C., who writes as follows:

"The oil is carried up the lamp wick by the force of capillarity. There is a height beyond which this force cannot



Scroll Pattern for Rug.

Use two or more of these combined to suit your fancy.

raise the oil fast enough to supply the flame. There are other causes, of course, which might make a lamp burn dim, but it seems to me that by your various experiments you have excluded all but this one. I have repeatedly seen the very same thing with large-bowled lamps, and I have come to the conclusion that in such cases the lamp ceases to work well because the wick has too far to lift the oil, but I have never known one to fail when the oil was only an inch from the top, unless that lamp had a long neck between the bowl and the burner. It is

require 10 teaspoonfuls to color 1,000 lbs. of milk, or one teaspoonful to color 100 lbs. of milk.

Hansen's Commercial Rennet Extract and Hansen's Commercial Cheese Color can be bought from either of the following firms: R. M. Ballantyne, Ltd., Stratford, and C. H. Slawson & Co., Ingersoll, at the following prices: Rennet, \$2.25 per gallon; cheese color, \$2 per gallon. They would, no doubt, send small lots of one pint each for a proportionate price. (Answered by Secretary Western Dairymen's Association.)

The Quiet Hour.

DO YOUR OWN BUSINESS.

"And that ye study to be quiet, and to do your own business, and to work with your own hands, as we commanded you."—1 Thess., iv.: 11.

"Be strong!

We are not here to play,—to dream,—to drift;

We have hard work to do, and loads to lift;

Shun not the struggle—Face it, 'tis God's gift."

St. Paul advises us to "study" to do our own business, and it is folly to put off from year to year that most important study. Certainly we have some business in the world, and it is very possible that many who are constantly busy are yet neglecting their own special business. Of course, it is not very polite to say, "Mind your own business!" And yet that seems to be the plain English of St. Paul's sensible advice. We may, then, be very busy and yet be utterly neglecting the particular work God wants us to do. Dickens shows this very plainly in his immortal "Christmas Carol," which is the best Christmas story I ever expect to read. Scrooge tries to comfort the unhappy spirit of his dead partner by saying:

"But you were always a good man of business, Jacob."

"Business!" cried the Ghost, wringing its hands again. "Mankind was my business. The common welfare was my business: Charity, mercy, forbearance, and benevolence were all my business. The dealings of my trade were but a drop of water in the comprehensive ocean of my business!"

Oh, don't let us wait until death opens our eyes to what is really important work, and what is unimportant, before we recognize the fact that our business in this world is not to heap up money, nor to seek our own happiness in this world or the next. Like our Master, we must be about our Father's business, from earliest youth until we step out into the higher life of joyful service beyond the gate of death. To care only—or even principally—about the salvation of our souls, is certainly not to follow in His steps. He did not come into this world in order to save Himself, and He lights the fire of love in the hearts of men, not that they may selfishly keep it to themselves, but that they may help to enlighten the darkness of others. "For none of us liveth to himself, and no man dieth to himself."

It is a grand thought that God not only gives each person his own special work, but also especially fits the worker for that position. No two people are exactly alike in character or environment, any more than they are exactly alike in appearance. God wants us to do our "own" business, not to copy somebody else. He is the Great Architect of the Heavenly Temple; and we are not only living stones, each one exactly cut and shaped to fit into his own particular niche, but we are also laborers—day-laborers—doing each day's duty without any certain knowledge of the great Plan, which He holds in His own hands. How important it is, then, that we should really do "our own" business, so that our bit of wall may exactly fit into the next bit. When Nehemiah built up the wall of Jerusalem, he accomplished the difficult task in fifty-two days. How was it done so rapidly in the midst of foes who tried to pull it down as fast as it was built? If you have patience to wade through the long list of names in the third chapter of Nehemiah you may begin to understand. Each man had his special post, and each man attended to his own business, and so the wall was built "and joined together unto the half thereof: for the people had a mind to work."

If Marley's Ghost was right in saying that the common welfare of mankind was his business, then probably it is our business too; and we may bitterly repent our wasted time, if we are too busy with other things to attend to that business. Terrible, indeed, it will be some day, if we are compelled to confess: "Mine own vineyard have I not kept." It will be but poor comfort in that day to remember that we have been made by other men, "the keeper of the vineyards."

Don't let us rest satisfied with a small

ambition. Carey, the great pioneer missionary to India, sent out a ringing call, which has still power to wake careless souls to earnest activity. He exclaimed: "Undertake great things for God; expect great things from God!" And he practiced what he preached. Like his Master, he worked at a humble trade, and when he gave up shoemaking, and tried to convert the heathen, his work at first seemed barren and fruitless. After seven years of labor only one Brahmin was converted, and yet his life was a grand success, and the ex-shoemaker received high honor from men, which, surely, in his case, was the reflection of God's praise. When he died, the universities of England, Germany and America went into mourning, and his one convert was the first fruit of countless thousands.

Doing great things for God does not always mean going out to teach the heathen; but it does always mean doing the work God gives us to do. Surely St. John did not think his special work of caring for a poor, lonely, heart-sick woman was of less importance than the world-wide vocation of the great apostle to the Gentiles. So if God has put homework into our hands, work which He plainly intends us to do, it is disobedient disloyalty to drop that in order to undertake what the world considers "great" business. If a soldier were told to guard a quiet pass, would he please his commander if he left that easy post in order to plunge into the thick of the battle? The greatest work the Master could give to his favored disciple was the care of a mother, and shall we dare to think that our work is poor and small, if the days slip by in a monotonous round of trifling duties done for love's sake? If you are quite sure you are doing your "own" business—the special work God has appointed for you—and doing it gladly as His servants, then be very sure that you are undertaking "great" things for God; although, like Carey, you may not see any swift return for all your labors. There are always plenty of people willing to do the grand, showy work; but a great many hands are needed for the everyday chores, which seem so commonplace and yet are so necessary for the common welfare of mankind.

An Irish tramp once offered to do anything in the way of odd jobs for his breakfast. When asked to chop some wood, he objected, explaining that he wanted to do "odd" jobs, and "there ain't nothin' more common an' ordinary than choppin' wood."

Let us be content to leave the "odd" jobs for other people, and go on with the common, ordinary work that lies close at hand.

"To me
There seems something nobler than
genius, to be
In that dull, patient labor no genius
relieves,
That absence of all joy which yet never
grieves,
The Humility of it! the grandeur withal!
The sublimity of it! and yet, should you
call
The man's own very slow apprehension
to this,
He would ask, with a stare, what sublimity
is!
His work is the duty to which he was
born."

HOPE.

"MY WORK."

"My work at home lies with the Olive
branches
Thou'at planted there,
To train them meekly for the heavenly
garden
Needs all my care.
I may not in the woods and on the
mountains
Seek thy lost sheep;
At home a little flock of gentle lamb-
kins
'Tis mine to keep.
Thou givest to Thy servants each his
life-work;
No trumpet-tone
Will tell the nations, in triumphant
pealing,
How mine was done—
But 'twill be much, if, when the task
is done,
The good news from thee
Shall come back, undimmed, the
same as when it
went."

The Young People's Department.

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

BLESSED ARE THE MERCIFUL.

Miss Alcott, author of "Little Women," told this story:

"Somewhere above Fitchburg, as we stopped for twenty minutes at a station, I amused myself by looking out of a window at a waterfall, which came tumbling over the rocks, and spread into a wide pool that flowed up to the railway. Close by stood a cattle train; and the mournful sounds that came from it touched my heart.

"Full in the hot sun stood the cars; and every crevice of room between the bars across the doorways was filled with pathetic noses, sniffing eagerly at the sultry gusts that blew by, with now and then a fresher breath from the pool that lay dimpling before them. How they must have suffered in sight of water, with the cool dash of the fall tantalizing them, and not a drop to wet their poor parched mouths.

"The cattle lowed dismally, and the sheep tumbled one over the other, in their frantic attempts to reach the fresh air, bleating so plaintively the while, that I was tempted to get out and see what I could do for them. But the time was nearly up; and while I hesitated, two little girls appeared, and did the kind deed better than I could have done it.

"I could not hear what they said; but as they worked away so heartily, their little faces grew lovely to me, in spite of their old hats and their bare feet, and their shabby gowns. One pulled off her apron and spread it on the ground, and emptying upon it the berries from her pail, ran to the pool and returned with it dripping, to hold it up to the suffering sheep, who stretched their hot tongues gratefully to meet it, and lapped the precious water with an eagerness that made the little barefoot's task a hard one.

"But to and fro she ran, never tired, though the small pail was so soon empty; and her friend meanwhile pulled great handfuls of clover and grass for the cows, and, having no pail, filled her 'picking-dish' with water to throw on the poor dusty noses appealing to her through the bars. I wish I could have told those tender-hearted children how beautiful their compassion made that hot, noisy place, and what a sweet picture I took away with me of these two little sisters of charity."

THE DUMB ANIMALS' PROTECTION SOCIETY.

The first members to enroll, by promising to be kind to all dumb creatures, and, as far as possible, to protect them from cruelty, are:

Stanley Tufgar, Millgrove P. O.
Mary G. Hughes, Tilsburg.

THE PRIZE ESSAY.

Some of the essays sent in, though well written, were not exactly to the point, as they made no comparison between our times and those they described. Of the remainder, there was a little difficulty in deciding between those sent by Justus Miller and Florence Jameson. The latter was perhaps more interesting, as it described more curious customs and conditions of the old days, in a more familiar style; but it could have been written with less thought than the one which wins the prize, as the comparisons with our own times were short, and lacked details. You will see that Justus Miller's essay is written in excellent style, and implies both reading and a considerable amount of thought. A very charming little essay was sent in by Effie McIntyre, who had the original idea of making the comparison take the form of a familiar chat between an old history and a modern one. But you shall all have an opportunity to read these essays for yourselves, so I will not say any more about them. C. D.

PRIZE ESSAY.

Queen Elizabeth's Time Compared with Our Own.

There is probably in the history of England no age which will arouse the enthusiasm of the true Briton more quickly than the Elizabethan era; for in this reign, by the defeat of the Spanish Armada, England was raised from an insignificant power to a nation of considerable importance, and as a direct result of this memorable event, became eventually "The Mistress of the Sea." In this reign, too, partly through the enterprising spirit of Raleigh and others, and partly in defiance of the Spaniard, foreign territories were taken possession of, and thus the foundation of the British Empire laid. And when we consider the queen who, though possessed of failings great and many, guided the ship of state safely through the turbulent waters of the latter portion of the 16th century, we can but echo the cry of the men of old, "God bless the good Queen Elizabeth."

However, although many history-making events occurred in that reign, and although the reward of individual enterprise was perhaps greater then than now, yet by the natural development of the race, man is far advanced over those days. For, from the depths or primeval darkness, through the gloom of the mediæval ages, up to the radiance of modern times, we see man pressing ever onward and upward, and, though sometimes checked and beaten back by adverse influences, yet ever rising again, and by the impulse of his ambition carried towards the summit of civilization. Thus, in the past three hundred years, the progress made along most lines has been so great as to admit but of contrast rather than of comparison between the two ages.

In matters of religion, the Elizabethan era was like our own in this respect, that the Protestant religion was the established form of worship of the state; but, unlike these days, freedom of worship was unknown. Although there were neither the burnings nor hangings during Elizabeth's reign that characterized some of the preceding reigns; yet anyone refusing to follow the prescribed form of worship was liable to a heavy fine and loss of office. At this time, throughout Europe, a fierce struggle was being waged for supremacy by the religious sects; thus, in France, at the instigation of the king, on St. Bartholomew's Eve, the 23rd of August, 1572, in a single night upwards of fifty thousand Protestants were treacherously slain, while Philip of Spain was trying to crush out all semblance of Protestantism throughout his vast domains, by use of the "Holy Inquisition" (the most unholy form, one would think, of diabolical tortures ever devised by the brain of man). Nor were the Protestants always more tolerant, and thus there arose throughout Christendom such an epoch of slaying as was perhaps never before equalled. In this respect in our land, at least, conditions have changed, and now we all have the privilege of worshipping God as we please, with no fear of either persecution or molestation, and I wonder if we are not generally rather unappreciative of these privileges for which our fathers so nobly died.

While human nature has perhaps not changed as much as some of the outward controlling conditions, yet, since the days of Elizabeth, the moral sentiment of the age undoubtedly has. The manners and conversation in those days were rough and vulgar, as even the Queen is described by Dickens as "rather a hard swearer and coarse talker." Then, too, slave-trading and piracy were considered legitimate and honorable forms of trade, and drunkenness, we are told, was very prevalent among all classes. Many of these evils have partly or completely vanished, and are certainly disallowed by good society.

The education of that date, while advanced over that of the preceding reigns, was a luxury of the rich rather than a necessity of the poor as it is now, and when compared with our standard seems very limited and inefficient indeed.

Civil liberty was very limited too in those days, the laborers, we are informed, having little power, as the nobility and particularly the Queen's favorites practically ruled the land; and we also find cases of influential persons having their

opponents executed, who very often were guilty of no crime worthy of death. Such a state of affairs would not be tolerated in these days, as all men have equal rights regardless of their position in society, and no man may incur the death sentence until his guilt has been clearly proven.

Along the line of general comfort, great strides of progress have been made. All the articles and appliances of modern convenience which have become necessities, were then unknown. As the times were rough and coarse and hard, so were comforts, and, in this respect, we certainly have nothing for which to envy "the good old days."

In literature, however, we are surpassed by that age. We have never had another Shakespeare; nor have we ever in any other one reign had so many famous writers of English literature as in the days of Queen Elizabeth.

But, in no way is the advancement of the Empire more clearly shown than by a comparison of the military standing of the two ages. In the Elizabethan age England was populated by but four and one-half millions of people, without a single friend in Europe, and torn as she then was by warring factions and religious strife, she was protected by her isolated position rather than by her army and navy. What a vast difference we now see. Her flag flaunts the breeze in all climes; the gleam of her steel is reflected in the far north and the south, the east and the west; while on all the seas the guns of her great ships smile grimly. As a civilizing and Christianizing influence, she is paramount among the nations, loved by the righteous and feared by all evil-doers. Nor has she yet attained the zenith of her power, but is, as yet, but a maiden in her teens, her strength undeveloped, and her natural force unperfected, and when future generations, looking backward from the heights of their civilization, see the many admirable achievements embraced by our (to them) primitive development, they can but cry as we do now, "God bless the good King Edward."

Oxford Co. JUSTUS MILLER, JR.

A Mistake re the "Buzz Saw."

In a recent issue of your invaluable journal appears a very charming communication from one signing himself "W. O. Brownridge." He pays me a delightful compliment by including in his essay some verses of mine that appeared a year or two ago under the title of "The Buzz Saw," in the Toronto Star, Hamilton Herald and several other papers and magazines. I never thought the verses AI myself, and it was with a shock of pleased surprise that I found that your gifted correspondent thought them worthy a place in the "Young People's Department." However, it leaves the impression that your talented subscriber wrote the verses and not "The Khan."

As Mr. Brownridge is evidently an admirer of mine, I pray that his sore leg may soon heal.

Assuring you of my deepest devotion and regard, believe me, dear Cousin Dorothy, or Mr. Editor, to be yours,

R. K. KERNYHAN.

[Mr. Brownridge's sin of omission was, we think, an oversight. However, we may improve the present opportunity by urging upon our correspondents the necessity of giving full credit wherever the words of another are copied. Editors have not read everything that has ever been printed, and cannot always know to supply such deficiencies.]

Making Skis.

From personal observation, a set of skis are regulated by a person's height or size, ranging from 8 to 12 feet in length; about 4 inches in width. They are generally made from birch timber, that being a very smooth timber. Take the first bark off; then split the skis out, the bottoms being the bark side. They range in thickness according to their length, so as not to spring; with the front or toe part turned up about 4 inches. In a place in front of center, a strap goes over the toe, another over the heel, like the old-fashioned skats. When on skis, a stick about 5 feet long should be used to help in balancing and propelling ones self along. The timber should be a little thicker where the foot rests, and holes should be bored for the straps. SIDNEY A. MOORE.

About the House.

SELECTED RECIPES.

Brookline Biscuit (C. J.).

Have a pint of sifted flour in a bowl; into this rub two level tablespoonfuls of butter. Scald one cup of milk and when lukewarm add one-fourth a cake of compressed yeast, dissolved in one-fourth a cup of lukewarm water. Stir this into the flour, and set to rise over night. In the morning work in sufficient flour to make a dough, and knead it until it is elastic and does not stick to the fingers. Let rise until very light, then take from the bowl to the bread-board, without working, and roll out into a rectangular sheet, longer than it is wide, and half an inch thick. Spread softened butter upon this, and fold the dough evenly, to have three layers. With a sharp knife, dipped in flour, cut the dough into strips three-fourths an inch wide. Take hold of a strip at the ends, pull gently, to lengthen it, then twist the ends in opposite directions and form the shape of the figure eight, joining the two ends underneath. Place the biscuits in buttered pans so that they will not touch, and when light bake in a rather hot oven to a delicate brown. The recipe makes two dozen biscuits.

French Toast.—Beat an egg, and add to it 1 cup sweet milk and a little salt, also a little sugar, if desired. Dip slices of bread into the mixture, allowing them to absorb a little of it, then brown the slices on a hot buttered frying pan. Butter, and serve hot.

Lemon Cheese Cakes.—Line some patty-pans with good pastry or puff paste. Take 1 ounce butter, the juice of 1 lemon, and the grated rind, 2 tablespoon sugar, and 1 beaten egg. Mix well, and place on the back of the stove, where it will get thoroughly heated, but will not boil. Put a teaspoonful of the paste in each patty-pan, and bake in a hot oven. Serve cold.

Fig Filling for Layer Cake.—Mix half a pound boiled figs (chopped fine), 1 cup sugar, and 1 cup water, and boil in a double boiler until smooth and thick, then add 1 teaspoon vanilla.

Lemon Marmalade.—Six dozen lemons, 1 dozen oranges, 7 lbs. granulated sugar, and 7 pints water. Wash the lemons and oranges, leaving the skins on, then cut in quarters, and slice very thin with a sharp knife. Let the fruit stand in the water over night. In the morning, boil one hour; then add sugar, and boil one-half hour longer, or until it jellies, and turn into glasses.

Corn Muffins.—Mix 1 quart sifted corn meal, 1 heaping teaspoon butter, 1 quart milk, 1 saltspoon salt, one-third cup yeast, and 1 tablespoon molasses. Let rise four or five hours, and bake in deep patty-pans or muffin rings.

Sour-milk Griddle Cakes.—One and one-half pints milk, 2 eggs, flour to make a batter, ¼ teaspoon salt, 2 teaspoons baking powder, 1 teaspoonful melted butter. Beat the eggs well, and stir them into the milk. Add the salt and baking powder, and enough flour to thicken, and lastly, stir in the melted butter. The batter should not be too thick, and the griddle well heated.

ORNATENESS.

Is the besetting sin of our times, from an artistic standpoint, ornateness? Verily one would think so on making a trip through the carpet and furniture stores and china shops of our smaller towns. Scarcely anywhere will you find plain, solid, simple, wooden furniture. Harder still is it to discover carpets ofellow and artistic coloring or curtains which are not ruined by "design." The china stores are, as a rule, so many nightmares of crudely-colored, large-flowered crockery—one can scarcely call it china.

Now, the fault is not all with the dealers. They know better—the most of them—they know what good taste should demand, but it is their business to sell goods, and they will continue to show crude, ugly things just as long as their customers demand "decorated" things at a low price. Just as soon as they find their customers absolutely refusing to buy furniture with tawdry ornament glued thereon, carpets and wallpapers of eye-dazzling hues and patterns that rise to strike you in the face, and china be-

sprawled with roses and mixed bouquets—just so soon, we repeat, as they find their customers refusing to buy these things, will they banish them from their warerooms, and supply, instead, simple, plainer, and infinitely more tasteful furnishings.

We by no means wish to imply that all decoration is tawdry. On the contrary, it may be exceedingly beautiful. But we do wish to emphasize that beautiful decoration simply cannot be had at a low figure, and that its excessive use, even when good in quality, is to be avoided. It is safer to run no risk of vulgarity in this matter.

tion of any kind, save for a narrow blue band all about the rims. Glassware, except cut glass, should always be perfectly plain and smooth of surface. It looks better, and is more easily kept clean. Vases and ornaments in especial should be graceful of outline, but chary of decoration. A vase bedaubed with crude flowers should never be tolerated in any room; while one intended for flowers should be of such a kind (preferably plain, clear glass) that it will not obtrude on the beauty of the flowers.

One last word: when we go to buy, let us insist on having what we want, or go without buying until it is supplied

used very sparingly. It is surely the height of folly to eat food which we know our stomachs cannot digest. Intemperance in eating is the cause of much of the sickness existing among the human family.

We should start very early in life and avoid practicing anything which tends to weaken or enfeeble the system. Remember it is very hard to build up a broken-down constitution. We see boys smoking cigars and cigarettes, little dreaming that they are ruining their health and shortening their lives by indulging in this practice. Excesses of all kinds, giving way to anger, etc., injures the health. Late hours should be avoided.

For several years I have kept my bedroom window open nearly every night during winter and summer, and have enjoyed better health than formerly, when I kept it closed for fear I should catch cold. I have found out that the more fresh, pure air we breathe, the less liable we are to catch cold. Many people keep their windows tightly closed all winter, and are never free from colds. Open your windows and let in the pure, health-giving air, which is free to all.

Thomson has truly said in his couplet:

"True happiness, if understood,
Consists alone in doing good."

Health comes first; happiness should follow. Surely there are many sources of happiness in this beautiful world. Out on the farm during the summer season we can revel amid the enchanting beauties of Nature, which are so lavishly spread out all around us for our pleasure and gratification. Dear friends, let us open our eyes to behold our blessings.

To the book-lover, reading is a source of enjoyment or happiness. The Bible should take first place always. Our search for useful knowledge should be continued unabated all our lives. If the farmer wants to attain success in his vocation, he must read, observe and practice what he learns. The home should be well supplied with first-class agricultural magazines. "The Farmer's Advocate" should be carefully read by every member of the family. Its pages contain valuable information regarding tilling the land, cropping, fruit-raising, the management of the stock, etc., and the women folk are delighted with the beautiful weekly sermonette written by "Hope." How many hearts have been cheered and comforted by her loving, inspiring words, Eternity alone can reveal.

Unbroken family ties should be another source of happiness. Parents who have their lively, robust boys and girls all at home on the farm should indeed consider themselves fortunate. To have our own with us instead of hirelings, what a blessing it is.

I fail to find any monotony in country life. If we are kind to the animals, they welcome us when we go to attend them, and who is indifferent to love, even the love of an animal. MRS. A. RODD.
P. E. I.

KEEPING YOUNG.

We occasionally meet a woman whose old age is as beautiful as the bloom of youth. We wonder how it has come about—what her secret is. Here are a few of the reasons:

She knew how to forget disagreeable things.

She kept her nerves well in hand and inflicted them on no one.

She mastered the art of saying pleasant things.

She did not expect too much from her friends.

She made whatever work came to her congenial.

She retained her illusions and did not believe all the world wicked and unkind.

She relieved the miserable and sympathized with the sorrowful.

She never forgot that kind words and a smile cost nothing, but are priceless treasures to the discouraged.

She did unto others as she would be done by, and now that old age has come to her and there is a halo of white hair about her head she is loved and considered. That is the secret of a long life and a happy one.



Brookline Biscuit.

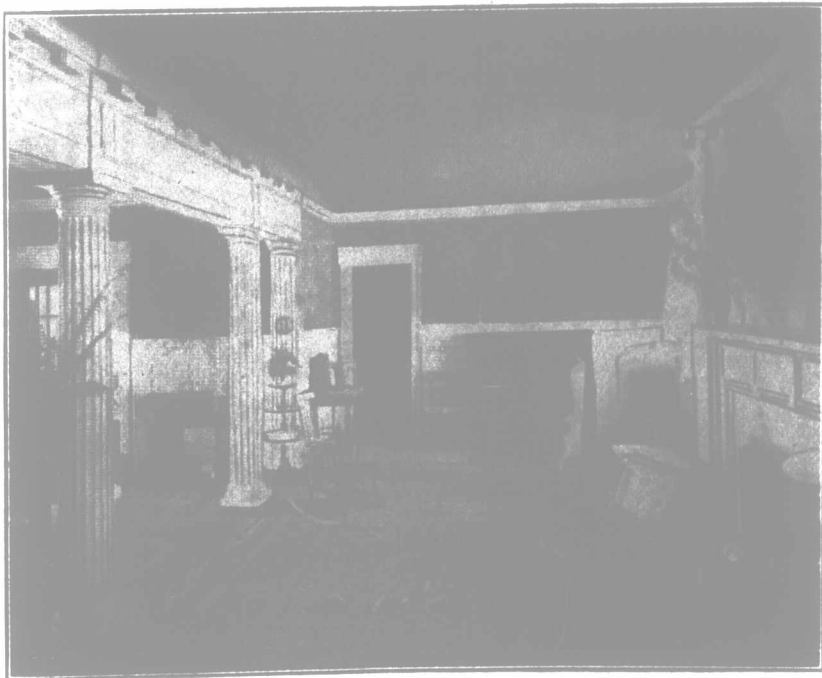
(From Boston Cooking School.)

In furniture, by which we mean the wooden things that go to the furnishing of a house, is ornateness especially to be avoided. Ornateness, even poor, is not made for nothing, and you may be very sure that when you are paying for it in a low-priced article, you are losing its cost to the producer somewhere in the quality of the article itself. This is not promising you that you will get a good, plain article for little money—you must pay for good wood anywhere, and some of the severe Mission and Antwerp furniture is quite expensive—but all things considered, a cheap table without ornament is likely to be a better article than a cheap table much ornamented at the same price.

for us. The shopman is persuasive; he wishes, naturally, to get rid of his stock on hand. But we are the people who have to do the paying, and we should be suited. If we persist in asking for the things that suit us, he will eventually supply them.

HOW TO ENJOY HEALTH AND HAPPINESS ON THE FARM.

Everybody wants to enjoy good health, but all are not willing to pay the price. The price is strict attention to the laws of health, some self-denial, temperance in all things, large doses of fresh air, avoidance of worry, plenty of sleep, and



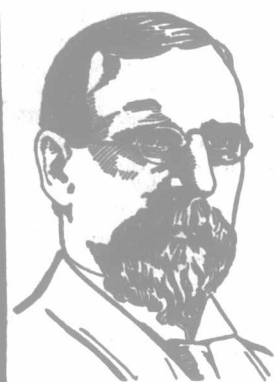
A Fine Drawing-room Arrangement.

(By permission of House Beautiful.)

In textiles "pattern" is often an expedient to conceal coarseness of weave and material. Not long ago, in buying a colored tablecloth, I found it necessary to pay almost twice as much for a plain cloth with a border as for one in which the pattern covered the whole surface. Nevertheless, there are many textiles in plain material which do not cost over much for a limited purse, art denims for cushions and upholstery, serims and cider cloths for curtains. In china, pattern must be chosen with discretion. There are small and dainty designs to be had, if you insist on having them, and of late some very desirable kinds are shown without decora-

a good conscience. Farmers and their families who breathe the pure air and enjoy the blessed sunshine, should, if they eat wholesome, digestible food, scarcely know what sickness means, at least not from experience. They have plenty of fresh milk, butter, cream and delicious buttermilk. Yet many country folk do not appear to appreciate the numerous advantages and blessings.

As we grow older, we require less food. Good whole-wheat bread, well-cooked oatmeal, cream, rice, eggs, potatoes, fish and beef, fruit, vegetables, butter, etc., contain nutriment quite sufficient to keep a person in good working order. Sugar, pickles, tea, pork and coffee should be



MANSON CAMPBELL
President
The Manson Campbell
Company, Limited.

I want to send you my special price and special terms to-day. Will you write for them?

Let me send you the proof of the big money you can make raising chickens with a Chatham Incubator

I HAVE the proof from all parts of Canada and the United States, which shows emphatically that the Chatham Incubator is making good profits for its users.

Some people who "just kept" hens as a side issue are now making big money raising poultry with a Chatham Incubator.

Others who were raising poultry with other makes are now making bigger profits with a Chatham Incubator.

You know it doesn't do to put all your eggs in one basket. The year comes along when crops are not so good. The farm doesn't pay as much as it should. Then don't you think you will appreciate the sure and certain profit that you get from poultry raising with a Chatham Incubator?

Better still; the price I can sell you a Chatham Incubator for and the terms I can sell it on, mean that you will be making a profit out of it before you have paid me one cent.

I practically start you in a profitable poultry business—which really only takes a small part of your time, or your wife's or daughter's—and it doesn't cost you one cent until you are making a profit out of it.

Now, I want you to write me to-day—a post card will do. Then I will send you my 1908 Booklet, which tells all about the Chatham Incubator, how it is made—the five-year guarantee we sell it on. How strong and successful a company is back of this

guarantee. It tells all this and also of the way the Chatham Incubator works, how it has made money for others, how it can make money for you.

Write me to-day and let me send you all this information about poultry raising, and I will also give you my special price and special easy-payment plan.

To save time address my nearest office—do it now while you think of it.

The Manson Campbell Co., Limited,
Brandon, Man.
The Manson Campbell Co., Limited,
Calgary, Alta.
D. Hammond, Box 194, Victoria, B.C.
Cote & Co., 6 St. Peter St., Montreal,
Que.

MANSON CAMPBELL
President
The Manson Campbell Co., Ltd.
Dept. 13 Chatham, Ontario
I also have a shipping warehouse at
Halifax, N.S.



Have Your Spring Suit Tailored to Your Measure in the Style worn in New York today



Write at once for Style Book and Samples—
They're FREE

You will save money.

You will be correctly dressed, and your Costume will be a pleasure to you and your friends.

You will save the tiresome fittings by dressmakers and you will have a perfect fitting, man-tailored Costume, made to your measure, and expressed to you within ten days.

Tailor-made Suits - - - \$7.50 to \$30.00
Separate Skirts - - - 4.50 to 15.00
Silk Skirts - - - 10.00 to 25.00

Express prepaid to any part of Canada.

WE GUARANTEE TO FIT YOU AND PLEASE
YOU OR REFUND YOUR MONEY AT ONCE.

Write today for our New Spring 1908 Style Book. We will send it FREE together with a large quantity of magnificently assorted samples. We know from the experience of thousands of pleased customers, that you will be delighted with our styles and the splendid materials we use—furthermore, we know you will be pleased with the Fit, the Appearance and High Quality of our Tailoring, as well as the exclusiveness of the model.

BE SURE TO MENTION COLORS YOU PREFER

The MORTON-BROWNE CO., Limited 110 Morton-Browne Bldg. TORONTO, ONTARIO

MAIL ORDERS ONLY. NO AGENTS OR BRANCHES.

Reference: Any Bank, Mercantile Agency or Express Company.

Carmichael.

BY ANISON NORTH.

Copyrighted—All rights reserved, including that of translation into foreign languages, including the Scandinavian.

CHAPTER XVI.—Continued.

"I hev' been a wicked man," he was saying in a voice from which the old-time Pharisaism had all gone. "We hev' been told to make confession with our tongues—'n' I'm here to-night to confess. I've been a wicked man!"—with a broken sob—"I've defrauded them that trusted me, 'n' done sich wickedness as, God knows, I'm bein' punished fer this day! If ever a man was in hell it's me to-night, here now!"—his voice ascending to a shriek—"N' hev' been ever since these meetin's started! I can't undo the past, but I can, at least, restore fourfold, 'n' that I'm doin' 'n' will do until the last has been paid, so help me Heaven!"

Amid the silence of the grave, in which people scarcely could find breath for astonishment and tension of feeling, he sat slowly down again, and let his head droop upon his hands, over which his thin, reddish hair fell in lean locks, as though it, too, would cover his shame and his misery.

Then, before the reaction could come, and the people could relax from their statuesque silence, I saw old Chris, at the end of our seat, hitch and hitch, with one hand upon his walking-stick, as though he were about to get up.

The minister's hand fell upon his open book, and he opened his lips to speak; but the old man, who never had spoken in public before in all his life, intercepted him. With a final effort he stood upright, placing both wrinkled hands upon the desk behind him, and leaning his weight upon them, while the light from the lamp above shone on his bald head with its few gray locks trailing over his coat collar, and upon his dear, rugged old face, throwing out all its shadows, and revealing in it a strength and fire that I had never seen there before.

Turning full upon Jim Jamieson, who had not yet raised his stricken head, he spoke.

"Jim Jamieson, it's not fer me, weak old sinner as I am, to condemn any man, er to judge. But if it's as ye say, 'n' ye've defrauded them that trusted ye, air ye sure ye kin pay it all back jist in money. . . . Dash it, man,"—then suddenly straightening up and sending his hearty old voice cleaving through the little schoolhouse to its farthest corners, while his brown fist waved in the air—"don't ye know there's some things in this world kin never be paid back jist in money? . . . Mebbe there's them that's bein' blamed fer yer fault. . . . I'm not sayin' there is, mind, but jist mebbe there is. . . . 'N' if there is, Jim Jamieson, if there's anyone bein' blamed this day fer anything ye've done, ye've a right to make that clear, if ye hope fer forgiveness fer yerself! . . . Mark my word, Jim Jamieson, there's no freedom fer you 's long 's anyone's bein' put under a burden that should lie on your shoulders alone—'n' ye know it!"

Chris stopped speaking, but he did not sit down. Instead, he stood, bending slightly forward and glaring at the creature who sat cowering lower and lower under the lash of his tongue, and the lance of an upbraiding conscience.

"Speak, man!" continued Chris in an instant. "If ye've been no man, but jist a craven coward, speak up this night 'n' play the man fer onst!"

But still Jim Jamieson did not move, except that his head sank lower and lower.

"Dash it, man!" roared Chris. "Why don't ye speak? It's time fer any man that's made the profession ye've made to quit bein' the

When Writing Please Mention this Paper.

coward. . . . Jim Jamieson"—slowly and impressively—"As ye hope fer mercy on yer own soul, speak!"

Then slowly the bowed head was raised, and a pallid face appeared; surely not Jim Jamieson of the bland, self-satisfied countenance, this haggard creature, with the wild, frightened eyes? Surely this was not Jim Jamieson—this decrepit man, aged by a score of years in a moment, who rose, clinging to the back of the seat before to steady him?

When he began to speak, it was with lips white as those of death, and we strained our ears to hear.

"Years ago," he faltered, as though plunging to the heart of the matter at once, else it might escape him, "I stole timber from Robert Mallory, when the by-road ran fer the winter past the back o' Henry Carmichael's lot, 'n' I could take it out without anyone bein' the wiser. I knowed the blame 'ud be put on Carmichael—'n' I took it out in the dead o' night—Heaven ha' mercy on me!"—His voice broke into a sob, and for an instant it seemed that he would fall. Then he looked up again, with a fierce determination, and continued without break or quaver, his voice rising higher and higher, as though forced by some inward power to proclaim the depths of his wickedness to the world—" 'N' I stole grain from Robert Mallory's granary, 'n' from John Billings, 'n' from Henry Carmichael's, 'n' from Adam Might's! A little here 'n' a little there, 'n' none o' ye ever knew! I've done it year in 'n' year out. It seemed as though there was a devil in me makin' me want to take things! . . . But I'm—I'm tryin' to make up fer it! I've tried to make up to Robert Mallory first, 'n' his voice sinking again until it was almost an inaudible whisper, while he clung to the desk as though the effort had been too much for him, and he must fall. " 'N' I'll do me best by John Billings, 'n' Henry Carmichael, 'n' Adam Might, four times over—four times over."

His lowest whisper could be heard throughout the room, so great was the tension of the silence, but when he began again, it was in a voice high, thin and strained.

"I tell ye, there's no worse hell than I've been in this month back! I never seemed to see my sin right afore! But I've got to get out of it!—I've got to get out of it! I've been a thief, 'n' coward, 'n' sneak, 'n'—yes, ye're right, Chris Bernard, I've let the blame o' takin' that timber lie on Henry Carmichael all these years! Robert Mallory blamed him, 'n' his family blamed him, that I know! 'N' I laughed in my sleeve over it! . . . But I tell all this night, before the whole o' ye here, 'n' I only wish Henry Carmichael was here to hear it! . . . Now, then, do what ye will to me."

He staggered back into his seat, but there was a light as of triumph on his seamed and haggard countenance, and he folded his arms across his breast as one who can do no more.

When he had finished, a perceptible movement ran among the people, but only Chris spoke.

"Ye've been a man this night, Jim Jamieson," he said, "Heaven grant ye may be kept there!"

Then he sat down, and the minister began to sing, in a low voice, some song about pardon and triumph over sin. One by one the "Christians" joined him, and as they sang softly a great sob was mingled with their melody. It was Jim Jamieson. He was sobbing like a little child.

Glancing at Chris, I saw that the big tears were rolling down his cheeks, and presently he got up and hobbled over beside Jim Jamieson, to whom he began talking, with his old head bent low beside the penitent, sin-stricken one. All through the audience women were weeping, and men were still looking puzzled and astonished. As for me, I felt that my heart would burst, and sobbed aloud. Amanda Might, too,

was wiping away the tears surreptitiously, but my little mother, who wept often on such slight pretext, was looking straight before her, and I doubt if she realized now that she was in the little schoolhouse.

As we went forth into the keen, crisp air, the bells jingled, and the moon shone, and the diamond rime glittered on every tree, and my heart sang. For were my thoughts not now of Carmichael, and unchidden? Henry Carmichael had been cleared of taking the timber. Might he not, in spite of all, be clear of the rest?

All the way home but little was said.

Amanda Might spoke once. "I'll never say a word against meetin's again!" she said, and the way in which she closed her lips indicated another opinion cut, dried, and safely harvested.

My mother spoke not at all, and Chris just sang and sang in his low croon, while I looked into the white depths of the wood, where the moon was making fantastic shadows on the snow, and the dark tree-trunks seemed to be whirling off in a mad dance, and thought how very fair this world is, after all.

We drove Amanda Might to the Carmichael's gate. There was a light in the window upstairs, and as we stopped a black shadow passed across it. It was Carmichael, probably, and I wondered what he would say when he heard Amanda Might's story. Then I wondered where Dick was, and what he was doing to-night, away up in the lumber woods of the North. Sleeping, probably, by this time, in one of the big bunks, with the light from the big fireplace flickering across his tired face. Poor Dick!

When we were again home, and I was passing Chris to go into the house, he said:

"Well, lassie, 'n' what did you think o' the meetin'?"

"Oh Chris," I said, "I am so—so glad I went."

He was rubbing his chin and looking at me in the old ruminating way.

"Aye," he continued, presently, while I waited, "it's been fer us all to see this night what the power o' the Lord kin do; though I'm thinkin' it's alwus abroad, 'n' it's only because we're wilfully blind that we don't see it sooner. The little ripplin' brook, 'n' the growin' grass, 'n' the seasons comin' 'n' goin', 'n' friends carin' fer us, ought to be enough. But sometimes it isn't; an' then there comes a great happiness fer one; 'n' a great sorrow fer another—like Carmichael there; 'n' sich things as meetin's fer others, like Jim Jamieson; in some way or another, ye see, the Lord speaks to us all. . . . Well, lassie, I'm glad it all came out so fair to-night. Will ye believe now what I alwus said o' Henry Carmichael?"

And I just turned and hugged the dear old soul until I must have hurt him. But he only gave me a sly poke.

"Hi! Hi!" he said, with his jolly humor back again, "Keep that fer Dick! Dash it if I don't wish I was Dick!" And now, what made him say that?

When I went to my room that night I did a very foolish thing. I went to the mirror, and, taking up the lamp, held it long before my face, scanning every line and curve of it. It was not a beautiful face, possibly a very plain one, yet there was some strength and expression in it. "You never had a lover in your life, and with your face, never likely to!" Gay Torrance had said, and to!" Gay Torrance had said, and the words still rankled. Yet, was it true that my face could come better to me and a possible happiness?

I took down my hair from the little tight knots in which, for convenience and speed in doing up, I usually wore it. It was long, glossy and luxuriant, and, when given its way, fell into broad, black waves. I puffed it out from my face, twisted it, turned it, then, finally, parted it fairly in the middle, and let it fall loosely as it would to the back of



This is the mark of a BLENDED FLOUR—the best Bread, Cake and Pastry Flour—the best all round flour in the world.

Just try it once. Look for this trademark on every bag or barrel you buy. All fine Blended Flours—milled of Ontario Fall and Manitoba Spring wheats—have it.

"Made in Ontario"

Advertisement for The Canadian Steel Wire Fence Co. featuring a diagram of a 45-inch wide fence with various wire gauges (9, 8, 7, 6, 5, 4) and descriptive text about the quality and construction of the American Fence.

Advertisement for Orange Lily medicine, featuring an illustration of the product and text describing its effectiveness for women's health issues, including nervousness and circulation problems.

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

DIAMOND DYES
Add To
Home Comfort and
Contentment.



"For the last eleven years Diamond Dyes have been special home favorites with us, and have been a source of home comfort. Two weeks ago I dyed three pairs of curtains with great profit and satisfaction. I first colored two pairs of rusty and faded cream lace curtains a delicate shade of light pink for bedroom windows, using your Diamond Dye Pink for Cotton. I also dyed a pair of tapestry portiere curtains, which after five years of wear had become very faded and unsightly. This pair I dyed a rich garnet, using Diamond Dye Garnet for Cotton. I may say, that in my estimation, Diamond Dyes are the best I have ever used."

Mrs. Emma M. Sharpe, Toronto, Ont.

The All-Important Thing to secure success in home dyeing is to be sure you get the real Diamond Dyes. The next important thing is to be sure that you get the Kind of Diamond Dyes adapted to the material you intend dyeing.

Diamond Dyes For Cotton. When you decide to color Lace or Tapestry Curtains in which Cotton or Linen (vegetable fibres) largely predominate, always ask for DIAMOND DYES for Cotton.

ALWAYS WRITE US. If your merchant cannot supply you with the colors you need in Wool or Cotton DIAMOND DYES, write us (enclosing ten cents for each package wanted) and we will mail same to your address.

You Will Need Them. Send us your address and we will mail you free of cost the famous Diamond Dye Annual, New Teddy-Bear Booklet and Diamond Dye Cook Book.

WELLS & RICHARDSON Co., LIMITED
MONTREAL, P. Q.

A CLEAN-LOOKING FACE



Is preferable to a spotted, pimpled, blotched, angry-looking skin that gives a repulsive appearance. Get rid of it by using our reliable

Home Treatment

for young men and women, or anyone afflicted with any skin trouble. We cure when others fail.

Superfluous Hair, Moles, etc., entirely removed by Electrolysis. Satisfaction guaranteed. Booklet "F" on request.

HISCOTT DERMATOLOGICAL INSTITUTE, FORMERLY GRAHAM, Tel. M. 631, Hiscott Bldg. 61 COLLEGE ST. COR. LAPLANTE AVE., TORONTO.

LEARN DRESS-MAKING BY MAIL

In your spare time at home. We will give, direct to the public, our \$15 course, including our Ladies Tailor System for wholesale price, \$5. As there are a large number of you who cannot learn by mail, we will send system and first lesson (which teaches how to make a perfect fitting waist) to any address in Ontario. After you are satisfied you can learn, send \$5 and we will forward full course of lessons. We guarantee to give \$50 to anyone we cannot teach. These lessons teach how to cut, fit and put together any garment, from the plainest shirt waist suit to the most elaborate dress. We have been in business for over ten years, have taught over 7,000.

Write for particulars.
Address—SANDERS' DRESS-CUTTING SCHOOL,
31 Erie Street, Stratford, Ontario, Can.

WOMAN'S SPRING SUITS \$6.50
Send to order. Also suits to \$15. Send to order for cloth samples and style book.
Southcott Suit Co., London, Ontario

my neck, where I coiled it and fastened it with a silver pin. Even I could see the improvement. The simplicity of arrangement brought out my profile, which was not bad.

Last of all, I took down a pretty, pink jacket which Miss Tring had given me, and which, waiting for an opportune occasion, I had never worn. Slipping it on, again I studied the effect, as carefully as did ever demoiselle about to step before the footlights. Again there was an improvement, and there was impressed upon me an inkling of what well-chosen dress may do. . . . No, I was not hideous, let Gay think what she might.

Then, all of a sudden I flushed with shame. What was Dick to me that I should be prinking myself in consciousness of him? No, Dick was nothing to me, nothing, nothing. Why should I think of Dick?

Then I slowly took off the pink jacket and braided my hair, and, with a little sigh—for it seemed that I was always called upon to renounce, but oh, so much less tragically than had been poor Gay—once more put Dick resolutely from my mind, and tried to shame myself with the thought that I had come straight from a religious meeting, and such a meeting, to prink myself out in silver pins and pink waists, and stand twisting and turning before the glass like any giddy miss of sixteen.

At all events, the great burden consequent upon Carmichael's supposed misdoings had been rolled from me forever. It was borne upon me somehow that he was as guiltless of setting the barn afire as of stealing the timber. Yes, we had misjudged him. My poor father—oh, why had he not found out before that dreadful night? How different everything might have been! If only the meeting, or some such influence, had been brought to bear long ago! It was surely a wonderful power that could induce people voluntarily to lay forth the very inmost blackness of their souls—even to Jim Jamieson, weak, drivelling coward, to whom confession must have been as the knife of torture. Oh, it was wonderful, wonderful—and life was so strange, so strange!

CHAPTER XVII.

A Journey With a Curious Ending. Upon the following morning my mother went about with an air of decision, such as I had observed in her but once before, and that, strangely, on the night of my father's death. She said nothing to me of what was in her mind, but shortly after breakfast bade me put on my wraps, as she wished me to go out with her.

I obeyed her, wondering much what could be in the wind, for my little mother could be but seldom induced to go out, even to make a neighbor a visit. Yet I asked no question as we went over the crisp snow, through the wood-lane, thence on in the direction of the old home.

At the gate, where the lilacs, now grown into great thickets, were all glittering with a thousand diamonds in the morning sun, she looked in, walking more slowly; then drew her shawl about her, as though seized with a chill.

"We are goin' to Carmichael's," she said, and passed on.

At the next gate we turned in, and very strangely indeed did I feel as we walked up the path which my feet, at least, had trodden so seldom before. I think my little mother felt the strangeness of it, too, for once she paused and looked at me half fearfully; then she trudged on again as decidedly as before. What she could be about to say at the house to which we were going I knew not; but I knew that, whatever it might be, it would make no worse the relations between Mallory and Carmichael, and every step forward seemed a step toward a great liberty and the light of the sun.

Minnie, the maid, met us in wide-eyed astonishment.

"Mrs. Carmichael's a heap better

to-day," she said, taking it for granted that we had come to visit the sick one, "I'll see if she'd like to hev' ye come up to her room."

But my mother motioned her to stay.

"It's Henry Carmichael I want to see," she said. "Is he at home?"

"Yes ma'am. I'll tell him, ma'am," said Minnie, more nonplussed than ever; and while we waited in the neat living-room, with the fire burning and the kettle singing, just as it had done before when, as a little girl, I had sat shyly holding my cookie in my hand, I could almost hear the beating of my heart, so anxious was I, lest, once more, there should be possibility of misunderstanding.

Henry Carmichael came in, cap in hand, bowed courteously to my mother, who took no notice of his salutation, and shook hands with me. Then he sat down in evident embarrassment.

My mother did not keep him waiting long.

"Henry Carmichael," she said, "ye'll hev' heard through Amanda Might o' what happened at the meetin' last night. 'N' I'm doin' what Robert Mallory 'ud ha' done if he'd been alive this day. I have come to tell ye that I'm sorry for what we believed in the wrong. 'N' I'm right glad a bad matter's been set right. 'N' I trust ye'll bear no grudge against Robert Mallory."

She could say no more, for the reaction, after the effort to which she had steeled herself was upon her, and she was sobbing away again, my own child-like, innocent, little mother.

For one moment Henry Carmichael sat as though in perplexity, fidgeting his great hands, for in some ways he was a shy man, this giant Carmichael, as giants usually are; then he arose, and with one stride was beside my mother, with his hand on the arm of her chair, soothing her as he might have soothed a little child with tone and word.

"Tut, tut, woman! It's all right! Let by-gones be by-gones. I'm only glad it's clear at last. There, there, don't cry! Sure I've no grudge against Robert Mallory. I was worse than him. We were both mistaken. The best o' men may be mistaken sometimes, then what of a poor devil like me, with a temper that's been his ruin? Sure, I was worse than him! 'N' fer every hard word I ever said to him, or against him, I'm sorry. There, there! don't cry, Mrs. Mallory, don't cry."

As he spoke, leaning over her, with his voice dropping into the low Carmichael music, all the liking for him which I had been crushing down for so many years rushed up in me like a torrent which has broken down all barriers. I, too, had my confession to make. I, too, must make it before, in my own soul, I stood clear with Henry Carmichael.

Getting up, I went to him, and took hold of his other hand.

"And I, oh, I too have accused you, as I now know, wrongly," I said, "though no one has given me proof. . . . Mr. Carmichael—I—oh, I saw you leaving our barn that night, and I—I thought—"

"You thought I set fire to it, as Dick did?" he interrupted. "Oh, girl, girl!"

He was standing very straight and very still, with his gray eyes reading my very soul. I could not bear the wondering reproach in them, and, with a sudden impulse, dropped my face and hid it in my hands.

He put his arm about my shoulders, as he had so long ago, in the sheepfold.

"Don't be scared," he said, misunderstanding me. "I'm not goin' to tear at ye the way I did at poor Dick,"—with a quaver in his voice—"when I drove him away. That was the hardest act I ever done, 'n' the unreasonablist. But I'm not sayin' it wasn't the best thing ever happened to me, too, fer, with the sore heart that I carried round after it, I found out jist what an ugly, rampin' idiot I'd been, 'n' how far



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted, and Pet Stock. TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

DOWNHAM'S Strawberry Plants down them all. Fifty-five varieties. Catalogue free. Seed potatoes, blackberry and raspberry plants. John Downham, Strathroy, Ont.

EXTRA choice seed corn for sale; White Cap, Essex grown. George Gould, Edgar Mills.

MAN wanted—An experienced man on a stock farm, to take charge of Clyde stallion and band of brood mares. Married man preferred, and a good house provided. Position year around to right man. Address, J. J. Hales, Eureka Stock Farm, Chatham, Ont., box 704.

SEED CORN—Reliable seed corn that we guarantee to grow or money refunded. The largest and most comprehensive seed catalogue published in Canada; send for it; sent free to all who write for it. Globe Seed Co., Ruthven, Ont.

TWO farms for sale near Locust Hill, in York County. 140 and 115 acres. Land, clay loam; good buildings and fences. For further particulars address A. C. Reesor, Locust Hill, Ont.

WANTED—Herdsmen for Shorthorn cattle. Married man preferred. House provided. Address J. A. Pettit Freeman, Ont.

WANTED, by April 1st, an intelligent, strong, healthy man, with good habits. Must be good with a team and good milker. We will pay the highest wages to a man who takes an interest in his work, and is able and willing to do all kinds of work on a dairy farm. In first letter send references, state age, experience, wages wanted for a year. R & A. H. Baird, Chesterfield P. O., Ontario.

104 ACRES—\$3 100—County Elgin—2 miles from Wardsville; fine farm; clay loam; mostly cleared and cultivated; house, barn, stable, etc.; two orchards; fine opportunity. Cronyn & Betts & Coleridge, London, Ont.



Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 30 cents.

BARRED ROCKS—To introduce my stock, eggs for hatching 75 cents for fifteen. N. Smith, Jerseyville, Ont.

CANADA'S champion Barred Plymouth Rocks at Toronto. First, cocks, first, second, third, fourth hens. First, fourth, cockerels. First, second, fifth, pullets. Some excellent cockerels for sale. Jno. Pringle, London, Ont.

EGGS for hatching. Pekin ducks (imported), eggs twenty-five cents each. White Wyandottes (Fisher), R. I. Reds (imported), eggs fifteen cents each. Farwell Poultry Farm, Oshawa.

GLEN FARM White Plymouth Rocks. Canada's leading strain of utility fowl. Bred for meat and winter egg production by use of trap nests. Winners at the "Ontario" for three successive years. Eggs \$2 per 15. G. A. Robertson, St. Catharines.

MY Barred Rock—237-egg hen—is still Canadian champion. Send for circular. J. R. Henry, Waterdown.

MAMMOTH B. turkeys for sale, bred from imported stock. Young birds took 1st and 2nd at London, 1907. Pairs and trios mated not akin. R. G. Rose, Glanworth Ont.

MOTTLED Ancona eggs, \$1 50 per 15; single-comb White Leghorn eggs, \$1 00 per 15; \$4.50 per 100. Winter layers. Money makers both. Circulars free. E. C. Apps, Box 294, Brantford.

PAIRS—Toulouse and African geese—not related. Pekin and Rouen ducks. Last chance. Baker Bros., Guelph.

RHODE Island Reds, rose comb. Bred nine years from carefully selected heavy winter layers. Large brown eggs. Dollar-half per fifteen. Good hatch guaranteed. Jno. Luscombe, Merion, Ont.

WHITE Wyandottes exclusively. Winter-egg strain. Write to W. D. Monkman, Bond Head, Ont.

WHITE Wyandotte White Leghorn eggs. Grand stock. Prolific layers. Dollar a setting. E. W. Burt, Paris.

WE breed Canada's best Houdans and White Wyandottes. Houdan eggs, \$3.00 per fifteen; Wyandottes, \$2.00 per fifteen. Write for illustrated circular. Ernest Charlton, Ilderton.

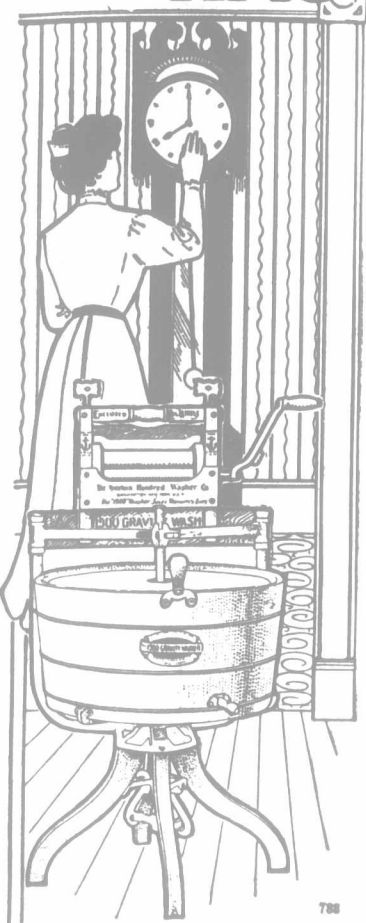
Gloverleaf Holsteins **YOUNG BULLS FOR SALE.** Bull sixteen months, R. of M. dan Bull three months.

Well-backed sires.
A. E. Smith & Son, Millgrove, Ont.

"Rastus," said the neighbor, "I'd like to borrow that mule of yours."

"Goodness sakes, boss," was the rejoinder, "I'd like to 'commodate you; but I's had some 'sperience wif de law. If a man is 'sponsible foh de acts of his assent, an' I was to lend dat mule out, it wouldn't be no time befo' I was arrested for assassination!"

YOU'LL THINK THE CLOCK HAS STOPPED



And what a surprise it will be to discover that the clock is going and you've actually got your washing all done at 8 o'clock in the morning. That's the certain result if you use a

"1900 GRAVITY" WASHER
the greatest time and labor saving machine yet invented. It will wash the heaviest clothing, blankets or rugs with the same ease and rapidity as it does the finest lingerie or curtains.

A Child Can Run The "1900 Gravity" Washer
and wash a tubful of clothes in six minutes, doing it better than a strong woman would by hand in an hour or more. Get a "1900 Gravity" Washer and you'll be able to do your washing and ironing on the same day. Now we make it so easy for you to try the "1900 Gravity" Washer. Read this

EXCEPTIONAL FREE TRIAL OFFER

Our faith in the machine is so great that we will send it to any responsible person for

One Month's Trial FREE
without any advance payment or deposit whatsoever. We pay all the freight ourselves. You may wash with it for 30 days and then if it doesn't do all we claim for it, ship it back to us at our expense. Note, we are the only manufacturers of washing machines on the continent willing to make this great offer. Let us send a "1900 Gravity" Washer to you.

Write to-day for our handsome booklet with half tone illustrations showing the methods of washing in different countries of the world and our own machines in natural colors—sent free on request.

LOOK FOR THIS LABEL ON THE TUB. None genuine without it.



Address me personally F. A. B. Bach, Manager
The 1900 WASHER CO., 355 Yonge St., TORONTO, CAN.

The above free offer is not good in Toronto and suburbs—special arrangements are made for this district

A NEW WHITE OAT RENNIE'S "BUMPER KING."

Every live farmer knows how necessary it is to make a change of seed oats from time to time—but the change, to be worth while, should be to the best of the newer importations. **Don't buy an old variety under a new name;** there's no profit in that.

We have imported direct from the North of Ireland all the stock possible to obtain of that wonderful new variety, **"Bumper King."** The seed stock itself averages 48 lbs. to the bushel.

Field report: Medium length straw; stands up well; large, full, compact head; large plump grain; shows an increase of 20 bushels per acre over older sorts.

SEND YOUR ORDER IN EARLY. STOCK IS LIMITED.

Price: Ex. warehouse, Toronto. Peck, 50c. Bush., \$1.75. Ex. warehouse, Montreal. Peck, 50c. Bush., \$1.85. Ex. warehouse, Winnipeg. Peck, 60c. Bush., \$2.00. Ex. warehouse, Vancouver. 10 lbs., 80c. 100 lbs., \$7.00. Bags extra.

ORDER FROM NEAREST POINT TO YOUR STATION.

Wm. Rennie Co., Ltd.,
TORONTO, MONTREAL, WINNIPEG and VANCOUVER.

An Aberdeen minister, catechising his young parishioners before the congregation, put the usual question to a stout girl, whose father kept a public house. "What is your name?" No reply. The question having been repeated, the girl replied "Name o' your fun, Mr. Minister, ye ken my name well enough. D'ye no see, when ye come to our house on a night, bet, bring me some ale?"

BICKMORE'S GALL CURE

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

from—from what a man ought to be."

So evident was his forgiveness of me that I dared to look up at him. He was still looking straight at me, but the gray eyes were now full of kindness.

"After all," he continued, "'twas no wonder ye thought what ye did, after what ye saw. But girl, girl, 'twas the lightnin' if ever lightnin' struck a barn. . . . What took me there?"

"Hush, hush!" I said, "I don't want to know."

"But I want ye to know. Girl, 'twas all because of a poor sheepie that was bleatin' 'n' bleatin' in the storm, 'n' he'd got away from the rest somehow. I lay 'n' listened till I could listen no longer. The poor beasties, ye know, they hev' their feelin's 'n' their loneliness jist like us, 'n' it's sore to hear them, when ye know them 'n' their ways. So I got up 'n' went over jist to put it in out o' the cold rain. Poor sheepie, it 'ud ha' been well fer it if I'd left it out that night! But, girlie," drawing me closer, "don't think I blame ye fer what ye thought. Ye saw what looked like it, 'n' before that ye'd only seen the worst o' swearin' old Henry Carmichael."

"I'd found out the other side of you, too, Mr. Carmichael," I said, "only I thought it my duty to hate you."

"'N' told me so, too," he added, with a twinkle. "D'ye mind the day ye told me I lied, 'n' that ye hated me?—that day on the road-work, when Sandy Dodd was struck? . . . Well, there wasn't nothin' two-faced about that, little girl, 'n' I've liked ye ever since. . . . 'N' now," he went on, with a chuckle, "ye'll hev' to make up fer it—"

"Well, how?" I asked, as he hesitated.

"Why," he said, "by likin' Dick jist as hard as ye can, 'n' givin' me, maybe, the scrapin's," and the big, hearty laugh that had so much infectious merriment in it rang out through the room. I, however, did not laugh with him, for, in confused annoyance, I was wondering how Henry Carmichael, too, had penetrated my secret.

The next instant he turned me round, and there, standing in the doorway leading to the stairs, with folded arms and an amused smile, stood Dick, watching us.

"Dick!" I said, holding out both my hands to him in the suddenness of my astonishment. Then, remembering that I was but a stranger maiden, the burning flush mounted to my face, and I covered it with my hands.

"Peggie!" he said, but there was that in his tone which made me look up, with the shame all gone, and only a great thankfulness possessing me.

He now was holding out both arms, and without a word I walked over to him.

When Dick and I, foolish children, came to ourselves, we were alone in the room, for my mother and Mr. Carmichael had suddenly found it discreet to visit the dear invalid upstairs.

Mrs. Might, when, in a few moments, I met her, was radiant.

"I'll not give in yet, 'twasn't that walk home from the parin' bee done it!" she said.

Gay was my bridesmaid, and when, before the ceremony, she arranged my hair with the middle parting, and the loose, black waves running down to the silver-pinned coil, she told me over and over again how lovely I looked. But I am sure she looked so very much lovelier than I, with her face now so full of gentleness, and so spirituelle as to be fairer far than that of the old Gay, that the people must have looked at her rather than at the bride, whose only glory must have been because of her happiness.

I might go on writing of the fortunes of our little district; but, since

one word stop somewhere, why not here? One loves to make a tale end with the wedding-bells; although, to my mind, the beauty of living begins, or should begin, just there.

I have wondered much what to call my little story. Dick teasingly suggests "Peg Mallory," or "The Reflections of Peg," both of which sound distressingly egotistical. But I shall turn the tables on him, having the pen in my own hand, and superscribe my little history with that word which has been the symbol to me of so much grief, so much trepidation, and such unspeakable happiness.

"CARMICHAEL."

(The End.)

HE WANTED A WORKER.

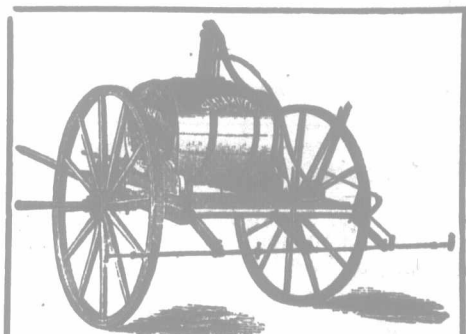
"I understand that you want a wife?" ventured the little widow who had come down fifty miles in answer to a matrimonial advertisement.

"Yes," replied the big farmer in the red shirt, "I want a wife who can milk sixteen cows before breakfast, clean out the house, make soap, feed the pigs and churn ten pounds of butter before dinner."

"Gracious!"

"Yes, but that's not all. She must also put up fruit, dry apples, make apple butter and do any odd painting that might be needed around the house before supper. Then she must husk corn, shell peas, make quilts and whittle triggers for the rabbit traps before bedtime. Then, when she goes upstairs, she will find a lot of overalls, jumpers and jackets and a big gold-leaf sign right over the lamp. 'It is never too late to mend.' Then . . ."

But the little widow had picked up her valise and fled.

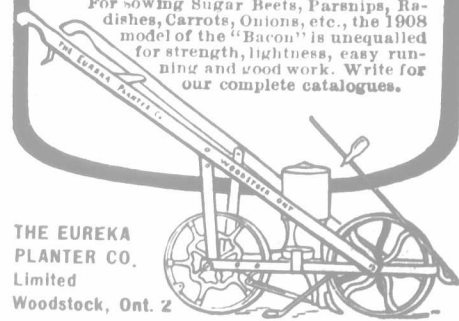


This shows the **H. P. Spramotor** arranged for spraying potatoes; three nozzles to a row and four rows; two spraying from the sides and one from the top adjustable as to height and width up to 40-inch rows. Nozzles absolutely will not clog. 12-gallon air tank. Automatic and hand controlled, 100 lbs.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

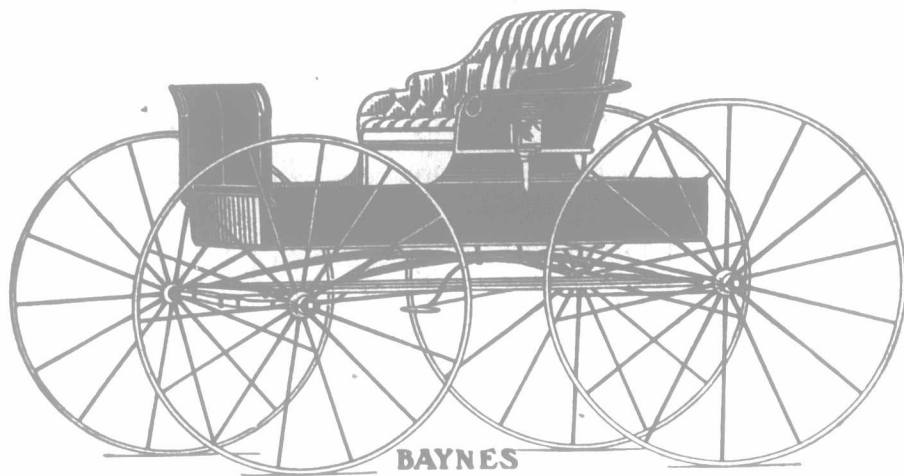
SPRAMOTOR, LTD.,
1058 King St., London.

The "BACON" Seed Drills and Cultivators

The only Rear-Wheel Driven Seed Drill on the market. The feed in the "Bacon" handles seed without bruising or breaking, and seeds evenly to the last seed. Machine instantly converted from a regular seed sower into a hill dropper. Feed Cut prevents waste of seed when turning rows. For sowing Sugar Beets, Parsnips, Radishes, Carrots, Onions, etc., the 1908 model of the "Bacon" is unequalled for strength, lightness, easy running and good work. Write for our complete catalogues.



THE EUREKA PLANTER CO. Limited
Woodstock, Ont. 2



BAYNES
No. 514 1/2

Here's just about the nobbiest thing in the way of Road Wagons that you will see "in a month of Sundays." Fitted with or without fenders and lamps. Large, roomy Auto seat, 3-reach Concord gear. Body, black; Gear, carmine, claret or canary.

The Concord Gear jobs do not weigh any more than the ordinary Elliptic spring jobs, and ride far easier.

No. 514 1/2 has the Long Distance Dirt-proof Axle, too, that runs a year with one oiling.

Write for name of local dealer handling Baynes Carriages, so you can see the complete line for 1908.

THE BAYNES CARRIAGE CO.
LIMITED
Hamilton, Ont.

QUESTIONS AND ANSWERS.
Miscellaneous.

WEIGHT AND GRADES OF FLOUR.

1. What is the weight of flour of which you quote the price of \$5.50 in the Montreal market?
2. What is meaning of Ontario "patents."
3. What quantity of flour is produced from one bushel of Manitoba wheat?

England. J. M. D.
Ans.—1. The weight of flour referred to in the Montreal market report is always 196 lbs.; that is, two bags of 98 lbs. each, making a barrel.

2. The term Ontario patent refers to patent flour made from wheat grown in the Province of Ontario or its environment. This wheat is fall wheat, in contrast to the spring wheat of Manitoba. Patent flour means that the flour has a greater percent. of the fine part of the wheat than has straight flour.

3. Generally speaking, millers calculate that it requires about 4 1/2 bushels of Manitoba wheat, on the average, to make a barrel of flour.

GRUB IN THE HEAD.

Editor "The Farmer's Advocate":

About this time of year a great many sheep-raisers have considerable trouble with one, two or perhaps more sheep that, from no apparent cause, become dizzy, and act as if crazy; standing with a vacant stare in the eyes, or perhaps running in a circle or into a fence or a wall as if blind. In most cases the sheep dies, and it is generally said to be "grub in the head," and very few seem to be familiar with any successful treatment for such cases, and it is with a view to draw from some experienced sheep-raisers their methods of treatment in such cases that I now write. The other day I was told from a very reliable source that he knew three different men who had taken a club to kill the sheep by hitting on the head, when at the first blow the grub fell out of the sheep's nostril, and the patients all got well. Now, if any readers have seen or heard from a reliable source of similar cases, I feel sure that the readers of "The Farmer's Advocate" would be pleased to hear from them. Yet, though I believe in "any port in a storm," I think there are other and more humane treatments in such cases, and one that has given good results as far as I know of its being used is: One cupful raw linseed oil, and one dessertspoonful turpentine, given as a drench every other day as soon as symptoms appear. It is simplicity in itself, and has completely cured a bad case in less than a week. Hoping to hear from some experienced sheep-breeders on this subject, and wishing "The Farmer's Advocate" every success.

CANADIAN.

[Note.—We are reminded that the knocking-in-the-head remedy has been previously published and claimed to have given relief, the practice being to place a piece of plank on the head and deliver the blow on the plank.—Editor.]

TRADE TOPIC.

COST OF LUMBER REDUCED.—Lumber costs can be reduced one-third and every lumber user may be his own sawyer through ownership of one of the celebrated De Loach mills. Any contractor, builder, manufacturer or farmer will appreciate what this saving means; to be independent, to haul your own logs and saw up your own lumber on your own premises just as you want it, and at a cost far below the retail price, means, not only economy, but convenience, time saving and efficiency. The initial cost of the plant is low, the operating expense small, and no experience is necessary. A fifteen-year boy can run this mill successfully. Two hands can cut 5,000 feet per day. For a catalogue telling all about sawmills, steam engines, boilers, gasoline engine, portable corn and feed mills, planers, shingle mills, wood saws and water wheels, address: De Loach Mill Mfg. Co., Box 351, Bridgeport, Ala.

"I see that Bilkins has wooden signs all over the district saying he's the best man in the field."

"Of course. He said he intended to nail some campaign lies."

For Spraying

Fruit Trees, Shrubs, Bushes and Plants, there's nothing to equal

EUREKA
COMPRESSED AIR, FOUNTAIN
SPRAYER

Requires but one pumping to empty entire contents of tank. Automatic lever valve stops flow of liquid while going from one plant to another. Easy, light compact; tested to stand 5 times the pressure required to expel liquid. Two nozzles, with hose attachment for spraying small trees. Write for catalogue. THE EUREKA PLANTER CO. Limited, - Woodstock, Ont.

PERFECT POTATO PLANTING

Every farmer knows the importance of proper potato planting. Here's a machine that does it perfectly. Has none of the faults common with common planters. Opens the furrow perfectly, drops the seed correctly, covers it uniformly, and best of all never bruises or punctures the seed. Send a postal for our 1908 free Book.

IRON AGE Potato Planter

Iron Age (Improved Robbins)

No Misses
No Doubles
No Troubles

BATEMAN MFG. CO., Box Grenloch, N. J.

W. A. BROUGHTON, SARNIA, ONT.
Canadian Agents.

ORNAMENTAL FENCE

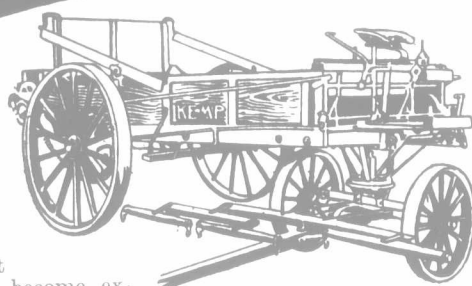
25 designs, all steel. Handsome durable. Cheaper than a wood fence. Special inducements to church and cemeteries. Catalogue free.

LONDON FENCE MACHINE CO.
LONDON, ONT.

Subscribe for "Farmer's Advocate"

The **KEMP** Manure Spreader

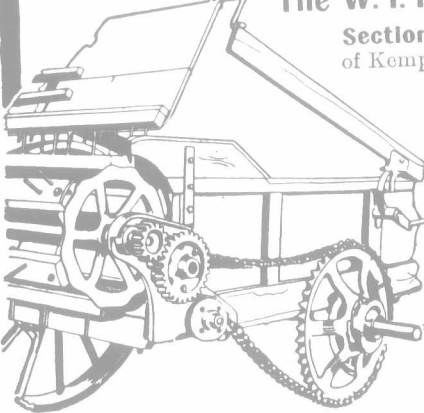
YOU ROB YOURSELF EVERY YEAR YOU DON'T OWN A KEMP MANURE SPREADER.



Growing corn, wheat and oats feed on the soil. If it is not replenished with food elements it will starve. In time it will become exhausted—a worn-out farm. No one wants such a farm, or need own one. The manure pile contains the food elements your soil is hungry for. And the KEMP will spread the manure to best advantage.

Our Big Free Catalogue explains the superior features of the KEMP. Gives fertilization pointers new to you. Shows how you rob yourself every year you don't own a KEMP. Write for it.

The W. I. KEMP CO., Ltd., Stratford, Ont.



Sectional view of a portion of the rear end of Kemp Spreader. Notice heavy steel pin chain and strong gears used to transmit power from rear axle to beater. The chain and gears are only in motion when spreader is in operation. Also notice the large 24-inch drop-beater, which gets under the manure and lifts it out of the box, instead of shoving it back in. This beater makes KEMP run easy

This Gear Cannot Go Wrong

NOTICE TO READERS!

When writing advertisers kindly mention "The Farmer's Advocate."



BOVRIL

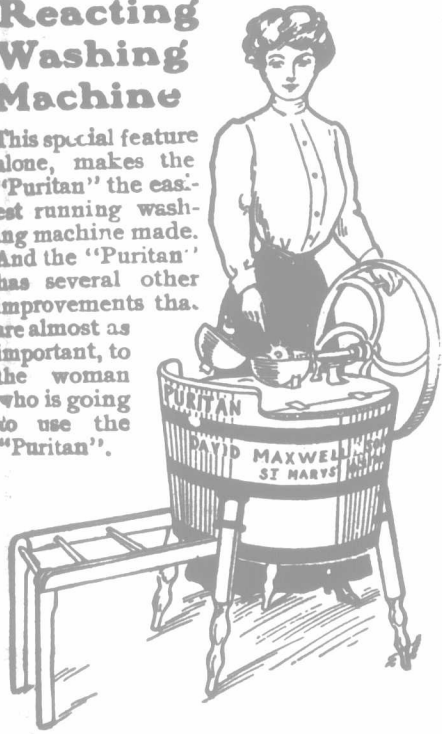
Use it in your kitchen. Added to other foods it increases their flavor and raises their nutritive value. It is most economical in the 16-oz. bottles.

Improved Roller Gear OF THE

"Puritan"

Reacting Washing Machine

This special feature alone, makes the "Puritan" the easiest running washing machine made. And the "Puritan" has several other improvements that are almost as important, to the woman who is going to use the "Puritan".



"Favorite" Churn

Is the favorite. There are more "Favorite" churns sold in Canada than all other makes combined. Patent foot and lever drive. Made in 8 sizes to churn from 1/2 to 30 gallons of cream. If your dealer does not handle these household favorites, write us.

DAVID MAXWELL & SONS
St. Mary's, Ont.

Liquor and Tobacco Habits

A. McTAGGART, M.D., C.M.,
75 Yonge St., Toronto, Canada.

References as to Dr. McTaggart's professional standing and personal integrity permitted by: Sir W. B. Meredith, Chief Justice. Hon. G. W. Ross, ex-premier of Ontario. Rev. N. Burwash, D.D., Pres. Victoria College. Rev. Father Teehy, President of St. Michael's College, Toronto. Right Rev. A. Sweatman, Bishop of Toronto. Rev. Wm. McLaren, D.D., Principal Knox College, Toronto. Dr. McTaggart's vegetable remedies for the liquor and tobacco habits are healthful, safe, inexpensive home treatments. No hypodermic injections, no publicity, no loss of time from business, and a certainty of cure. Consultation or correspondence invited.



Every Woman is interested and should know about the wonderful Marvel Whirling Spray Douche

Ask your druggist for it. If he cannot supply the MARVEL, accept no other, but send stamp for illustrated book—sealed. It gives full particulars and directions invaluable to ladies. WINDSOR SUPPLY CO., Windsor, Ont. General Agents for Canada.

Subscribe for "Farmer's Advocate"

TRADE TOPICS.

Attention is called to the advertisement elsewhere in this paper of the carriages manufactured by R. D. Milner, of Chatham, Ont. Write him for catalogue and prices, mentioning that you saw his advertisement in "The Farmer's Advocate."

The Aspinwall new No. 3 Potato Planter, advertised in this paper, was placed on the market for the first time in 1907. By reports, it leaves little to be desired in the way of a planter. It handles a larger range of seed than ever before. This year the Aspinwall people are putting out a new Double Cylinder High-pressure Two-horse Sprayer, which promises to be another winner. It is said to have given excellent satisfaction in thorough tests in the great potato fields of Aroostook County, Maine, last season. Anyone interested in potato machinery should write the Aspinwall Company, at Jackson, Michigan, for their 1908 catalogue, describing the whole Aspinwall line. Better do it now before the potato season is on.

GOSSIP.

The imported Shorthorn bull, British Flag =50016= (82971), red, calved March, 1902, is advertised for sale or exchange by John M. Beckton, Glencoe, Ont. British Flag was sired by the Duthie-bred Golden Fame (76786), and his dam is of the favorite Kinellar Claret tribe. See the advertisement.

SALE DATES CLAIMED.

March 24th.—Johnston Bros., Putnam, Ont., Holsteins (registered and grades).
March 26th.—W. A. Bagshaw, Uxbridge, Ont., Shorthorns, Cotswolds and horses.
March 26th.—Elias Pannabecker, Hesper, Ont., Holsteins.
March 26th.—McGarvin Bros., Chatham, Ont., imported and Canadian-bred Percherons and road horses.
April 8th.—F. A. Gardner, Britannia, and S. J. Pearson, Son & Co., Meadowdale, Ont., joint sale, Shorthorns.
June 4th.—John Dryden & Son, Brooklin, Ont., Shorthorns.

ANOTHER HOLSTEIN SALE.

Johnston Bros., of Putnam, Oxford Co., Ont., advertise in this paper a dispersion sale, to take place on Tuesday, March 24th, of their entire herd of 40 registered and high-grade Holsteins, 13 of which are registered, 10 cows and heifers in calf or having calved recently, or due early this spring, and three bulls. Having sold their farm, and arranged to go West this spring, all the cattle and farm chattels will be sold without reserve. These cattle have not been bought up to make a sale, but have been bred and raised on the farm, the pure-breds being founded on stock from the noted herd of J. L. Sweet, of Grand Rapids, Michigan. It is claimed that there are few heavier milking herds in Oxford County, where dairying is made a specialty, and only deep-milking cows are kept. These cattle are in fine condition, several of the cows having calved lately, and a number of others springing. These should find ready buyers. The winter is well over and the prospect bright for continued good prices for dairy cattle and for milk, cheese and butter. See the advertisement and note the date, March 24th. The farm is only two miles from Putnam Station, on the C. P. R. (Port Burwell and St. Thomas branch), and about 14 miles west of Woodstock, and conveyances will meet the morning trains both ways.

Lord Justice Cockburn, after a long stroll, sat down on a hillside beside a shepherd and observed that the sheep seemed the coldest situation for lying down. "Madam," said he, "I think if I were a sheep I should certainly have preferred the other side of that hill." "The shepherd answered, 'Aye, my lord, but if ye had been a sheep ye would have had mair sense,' and Lord Cockburn was never tired of relating the story and turning the laugh on himself.

THE SPICE OF LIFE.

"Well," said the assistant in a chemist's shop to an Irishman, who pointed to a pile of soap. "I want a lump of that," answered the Irishman. "Thank you. Will you have it scented or unscented?" "I'll take it with me."

The Vicar—I saw quite a lot of people in the market-place watching a fight between Jackson's bulldog and that mastiff from the Mitre. How can people take an interest in such things, Mr. Meakin? Deacon Meakin—I dunno, sir, I'm sure. Which dog won?

Gems of Language.—Ethel (describing hockey match).—Well, gran, we've had a topping game. The other side were bally rotten at the start, but they bucked up no end, and we had a bit of a hob to lay 'em out.

Di.—Oh, I don't know. I thought they were the most piffing crew of foolzlers I'd ever struck; we were simply all over 'em, and had 'em in the cart in no time.

The woman who was doing her marketing was difficult to please. She had overhauled every comestible in the shop and insisted on getting the best in stock at twopence a pound cheaper than the market price, and now it was a question of eggs.

"Are you quite sure these eggs are fresh?" she asked.

"They are, madam."

"You will guarantee them?"

"I will, madam."

"But how am I to know that you know they are fresh?"

"My dear lady," said the exhausted shopman, with incisive emphasis, "if you will kindly step to the telephone and ring up our farm, you will hear the hens that laid them still cackling! I'm afraid I can't say more than that."

THE LAWYER AND THE LANDLADY.

The woman was in the box, and she was a very nice-tempered, respectable woman, who kept a cheap boarding-house, and it was the desire of one of her guests to be dishonest that had brought her to the court to make him pay his board bill.

"How old did you say you were, madam?" inquired the lawyer, with no reason on earth, for an elderly landlady is no more anxious to lose a board bill than a young one.

"I did not say, sir," she responded, flushing to the roots of her hair.

"Will you be kind enough to say, madam?"

"It's none of your business."

"Objection sustained," smiled the judge.

"Um," said the lawyer, rubbing his chin. "How much did you say the amount was the defendant owed you?"

"Three pounds."

"And for how long was that?"

"Three weeks."

"That's one pound a week, isn't it?"

"Yes, sir."

"Three weeks at one pound a week is three pounds, I believe you said?"

"Yes, sir."

The witness was patient, but her temper was not improved under the strain.

"Isn't that an extravagant price to pay for board in your locality, madam?" inquired the lawyer, severely.

"He didn't pay it, sir," answered the woman, beginning to turn.

The lawyer gave a little start of surprise, then became indignant at the very thought of a witness talking like that.

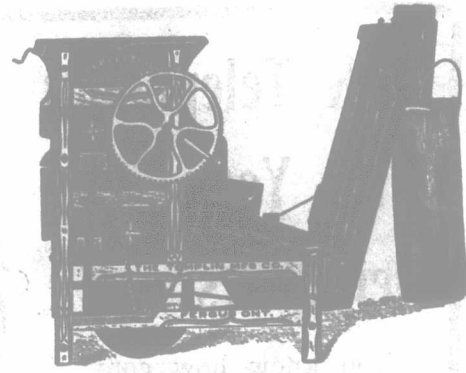
"Don't be facetious, madam," he said, assuming a tone of warning. "This is a serious matter. I have asked if your prices are not exorbitant, and you have seen fit to answer lightly, madam. Now, madam, I ask you in all earnestness, if you mean to tell this court that your prices are moderate, and that if I should come to your house to board you would charge me one pound a week? Answer directly, madam," and the barrister squared his shoulders and assumed an imperial manner.

"The witness was not at all abashed.

"No, sir," she said, simply. "I would—"

"I thought not, I thought not," interrupted the lawyer, bending over and rubbing his hands.

"No, sir," continued the witness, "I should not charge you at all. I should make you pay in advance."



PERFECTION Seed and Grain Separator

The latest and best device for cleaning and grading all kinds of seed and grain. 60 years ahead of all others. Sieves and vibration do the work, and do it thoroughly. Does not blow out good grain with the chaff. Perfect separation. Easy to turn. Saves its cost in one season. See nearest agent, or write for booklet F.

The Templin Mfg. Co.,
C. P. R. Fergus, Ont. G. T. R.

Horse Sense

Proper management of farm teams requires good sense on the part of the owner. An ignorant farm hand easily ruins the best horse by unwise feeding and mismanagement. Best results are obtained by keeping the system of the horse healthy and active, especially the digestive organs. Owners who make daily use of Dr. Hess Stock Food have serviceable, active and handsome horses. It is a tonic which acts directly upon the digestion, contains iron for the blood and nitrates to expel poisonous matter. Professors Quimman, Winslow and Finley Dun tell us that these things are beneficial to any animal.



DR HESS STOCK FOOD

contains such elements. It helps growth and fattening, makes a larger milk yield and gives good condition to all farm stock. Sold on a written guarantee.
100 lbs. \$7.00 25 lb. pail \$2.00
Smaller quantities at a slight advance. Duty paid.

Where Dr. Hess Stock food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee. If your dealer cannot supply you, we will. DR. HESS & CLARK, Ashland, Ohio, U.S.A. Also Manufacturers of Dr. Hess Poultry Pan-a-c-a and Instant Louse Killer.

SEND \$1, receive 5 cloth remnants, suitable for boys' knee pants up to 11 years. Give age and we will cut out pants free. Add 25c. for postage. N. Southcott & Co., 8 Coote Block, London, Canada.

A THOUGHTFUL PARSON.

A certain country minister was the owner of a swift and spirited horse. On one occasion, while he was driving through the village, he overtook the local physician on foot.

"Jump in, doctor," he said, pulling up. "I've got a horse here that goes pretty well."

The doctor jumped in, and the parson drove off. The horse did go well, in the sense of speed, but in a little while it began to behave badly, and ended by tipping over the carriage and spilling out both the occupants.

The doctor jumped to his feet, and felt himself all over to see if he was injured. The parson also got to his feet.

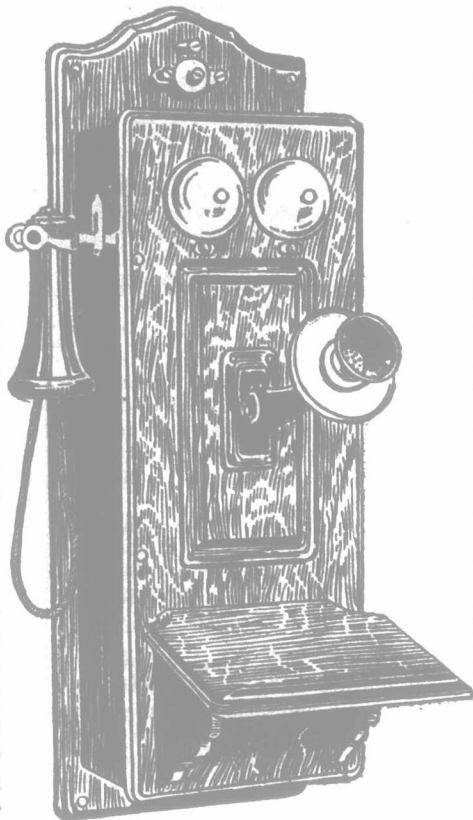
"Look here," exclaimed the doctor, "what do you mean by inviting me to ride behind a horse like that?"

"Well, you see," gasped the parson, "luckily this time there are no bones broken, but I always like to have a doctor with me when I drive that horse."

Talk Telephones With Your Neighbors

You know how convenient it will be—how quickly you can get help in case of fire, sickness or accident—how much walking and driving it will save you if your home is connected to your neighbors' homes by telephone.

Talk it over. See what they think about putting in an Independent Telephone system. Work up their enthusiasm—and let us tell you what it will cost to put in and operate a telephone system of your own.



WALL TELEPHONE, MAGNETO TYPE

CANADIAN INDEPENDENT TELEPHONES

make you absolutely independent of the monopoly. When you install our telephones, you buy them outright instead of paying an exorbitant yearly rental, as with the trust.

Write us for any information desired. We furnish full particulars free.

Canadian Independent Telephone Co.

LIMITED

26 Duncan Street, Toronto, Ont.

12

Invest Now in Land in the Canadian West

Experience has proved that all good land in the Canadian West, located in a good district, and within 20 miles of a railway station, or nearer, is worth at least \$25 per acre for Home-making. 160 acres of such land will return annually in net receipts as much as 100 acres similarly situated in Ontario, which sells for \$4,000 to \$8,000.

We hold the Exclusive Agency for large blocks of selected lands in Western Canada. Prices from

\$8 to \$25 per Acre

In 1906-1907 we sold over 300,000 acres. We give SPECIAL TERMS to actual settlers. We allow such to pay for land on the

Crop Payment Plan

Industrious, experienced, thrifty men, if they buy from us, are sure to succeed, because we are prepared to assist them in case of emergency, such as loss by fire, frost, loss of stock or sickness.

If you are a Tenant Farmer, own your farm—we will assist you. If you are a farmer's son, or an experienced farm hand, and wish to start on your own account, write us.

WE WANT RELIABLE REPRESENTATIVES IN EVERY COUNTY.

Address F. W. HODSON, MANAGER LAND DEPARTMENT

Union Trust Company, Limited

174 Bay Street - - - - Toronto, Ontario

706

QUESTIONS AND ANSWERS. Miscellaneous.

MORE POWER REQUIRED BY LONG BLOWER PIPE.

An engine is driving an ensilage cutter with a blower pipe 40 feet long, and cutting six tons per hour. This silo is filled. Then machine is moved to a small silo, and uses but 10 feet of pipe. The engine is driven exactly same speed, and the cutter is fed the same and under the same conditions, except with shorter pipe. Will the longer pipe take more power? If it will, kindly explain why. I think the short pipe will take a trifle more power, because the corn leaves the pipe more easily and allows fan of cutter to make more wind. If cutter was running empty, and you entirely cut off wind in blower, it would undoubtedly take less power to run than if it got full wind. Why would it not take less when partially closed? INQUIRER.

Ans.—The longer pipe will require slightly more power. The corn cannot leave the long pipe at as high a velocity as it leaves the short pipe, for gravity has thirty feet farther to act, and, in this thirty feet, it will reduce the velocity of the corn by 44 feet per second; hence the corn leaving the long pipe is travelling that much slower than that leaving the short pipe. Since this is the case, the wind made by the fan meets more resistance against the slower-moving corn in the long pipe, and hence this air presses back on the fans with just a little more force than in the short pipe, and hence a little more power will have to be applied to keep the fan running at the same rate as with the shorter pipe. WM. H. DAY.

GRUB IN THE HEAD.

For some few years a disease has been among my sheep, breaking out about this time of the year, causing the sheep to stand with their heads close to the ground. At times, they twitch for a few minutes at first, and continue to grow worse, lasting, perhaps, a few weeks, when, at last, they begin staggering backward and fall over; struggling for a time, after which they seem to regain strength and begin eating perhaps. They always die after a time in one of those spells. The sheep are in a comfortable place, and good care is taken of them. Have only a small flock of about six. Could you give me a cure for same? D. J. M.

Ans.—The symptoms are those of a complaint known as grub in the head. The grub worm is the offspring of the gadfly, which lays its eggs in the nostrils of the sheep in the summer-time, and these find their way up into the head and develop into a grub worm, which, in time, in the case of strong, vigorous sheep, come out of their own accord in due time, then turn into a fly that, in turn, lays eggs for more grubs. All sheep having grub in the head do not necessarily show symptoms of their presence. Butchers often find grubs in the heads of sheep that to all appearance are in perfect health. As a rule, treatment, after the sheep have become run down in health and strength, is of no avail. Some have claimed to have effected a cure by filling the nostrils of the sheep with tobacco juice with a syringe, holding the head up well meantime, thus causing the sheep to sneeze violently and dislodge the grub. There is, however, some risk of smothering the sheep and causing its death by this operation. Some have used coal oil in the same way. Prevention is better than cure, and the best preventive we know is to smear the sheep's noses with tar occasionally during fly time. Boring holes in a log or a wooden trough, filling these with salt and tar is recommended. So that in taking the salt, the sheep renew the tar covering of the nose. Providing a dark shed for the sheep to lie in in the hot weather is also good practice, as the fly will not work in the dark. Liberal feeding, keeping the sheep always in good condition, also helps them to resist the ravages of the grub.

"It has come to my ears that you are calling me 'the governor,'" said the old man, sternly. "Are you?" "I might as well admit it," said the young man, contritely. "You ought to have more respect for your name."

Ring-Bone

There is no case so old or bad that we will not guarantee

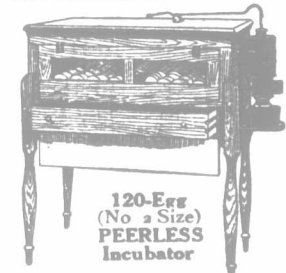
Fleming's Spavin and Ringbone Paste to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cures. Works just as well on Sibley and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write 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

Send for this now

Get the free book that tells "When Poultry Pays," and is packed with facts you ought to know about the up-to-date way to go into poultry-farming without big capital. Book describes outfits and the plan that makes success certain. Costs nothing to get it.



120-Egg (No. 2 Size) PEERLESS Incubator

Explains how we find you a cash buyer for your product. Proves why Peerless Incubator, Peerless Brooder and our no-cash-down way of selling, guarantees you

the right start. Send for book to-day, before edition is gone—no charge for it. With the free book we send full details of how to get a Peerless Poultry-for-Profit Outfit without putting up a cent of ready money... how to make sure before you start that poultry-raising will pay you. Get the book NOW.

Address The **LEE-HODGINS CO., Limited** 435 Pembroke St. PEMBROKE, ONT.



One Louse

A louse is small, but in the wrong place it makes trouble. Keep them out of the hennery or there is misery in store for the hens and small profit for you.

Instant Louse Killer

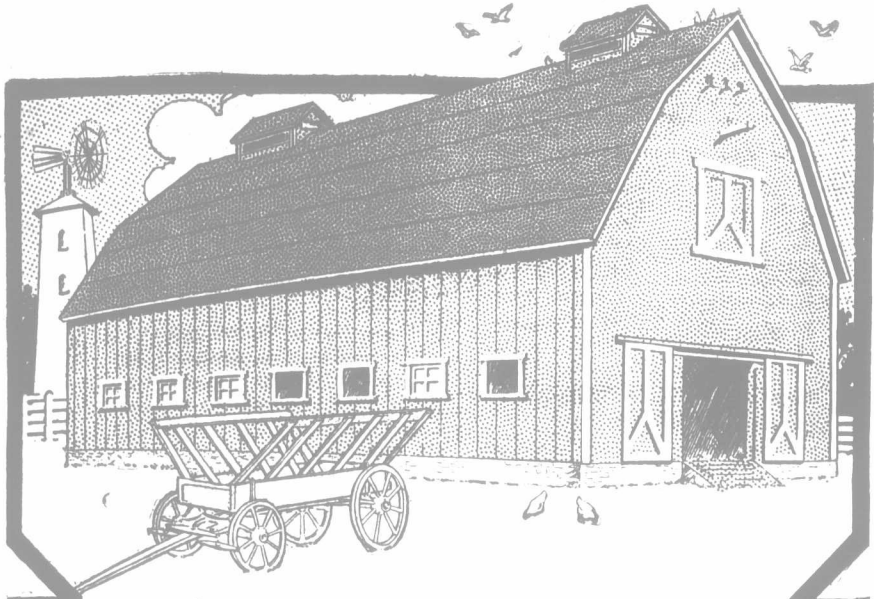
puts a speedy end to the louse pest. A thorough dusting of roosts, nests, hidden corners and cracks destroys them utterly. If you suspect lice, try it before they become a plague. Instant Louse Killer is the formula of Dr. Hess (M. D., D. V. S.) and kills lice on stock, ticks on sheep, rose slugs, cabbage worms and bugs on cucumber, squash and melon vines. It is also a reliable disinfectant and deodorizer. Comes in shaker-top cans.

Sold on a Written Guarantee.

1 lb. 35c; 3 lbs. 85c.

If your dealer cannot supply you, send your order to us.

MANUFACTURED BY **Dr. HESS & CLARK** Ashland, Ohio, U. S. A.



'Tis Roofed with REX and All is Well

The man who has his buildings covered by REX Flintkote ROOFING can feel that "all is well." The contents of his buildings are protected by roofs through which water cannot penetrate, that winds cannot blow off, that falling sparks cannot ignite. Furthermore, he has lasting protection, for

REX FLINTKOTE ROOFING

is durable. REX ROOFING is good all through. Its body is high grade, long-fibre wool felt, heavy, dense and durable; the saturation or water-proofing is slowly worked in until the body is thoroughly impregnated with it—REX saturation will never dry out; the coating is of special rubbery, gummy compounds that unite with the body and the saturation, and present a surface that is absolutely weather-proof and fire-resisting; will not crack in cold weather nor blister, peel, scale or melt in hot weather.

Write for Book and Samples—Free

Make the fire test, try its strength, note its pliability; and when you go to your dealer's, be sure you are given the "Look for the Boy" trade-mark kind.

J. A. & W. BIRD & CO., 20 India Street, Boston, Mass. Canadian Office: 29 Common Street, Montreal.



If you will carefully compare Samson-Lock Fencing with other wire fences erected in your neighborhood you will be convinced with its superior merits. You will observe that

SAMSON-LOCK FENCING

is the heaviest, strongest, stiffest of them all. Strength and quality considered, it is the cheapest wire fencing on the market at the price it can be erected for.

Samson-Lock Fencing is an investment that will appeal to every shrewd farmer in your locality.

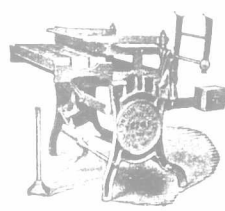
A LIVELY AGENT CAN MAKE MONEY quickly acting as our representative. Exclusive territory to the right men. Write to-day for our good proposition.

Locked Wire Fence Co., Limited.

LONDON, ONTARIO.



FARMERS, MAKE CEMENT BRICK, BLOCK AND TILE



During spare hours in the winter months, I will pay you to investigate. We make Cement Brick Machines, FACE-DOWN Block Machines, Cement Tile Machines, Concrete Mixers in all sizes, Sewer Pipe Moulds, Fence Post Moulds and a full line of Concrete Machinery. All goods sold direct at wholesale price. Purchase direct and save agents' commissions. Send for catalogue, stating your requirements. Address:

THE LONDON CONCRETE MACHINERY CO. 28 Redan St., London, Ont.

The largest exclusive Concrete Machinery Co. in Canada.



London Face-down Cement Block Mach

QUESTIONS AND ANSWERS. Miscellaneous.

FIRE FROM LOCOMOTIVE SPARKS.

On December 27th a heavy freight train passed our barn, which is 300 feet from the track. A few minutes afterwards the barn was on fire. Everyone who saw the fire first say that it was in the cupola, which is more or less open, and on top of the barn. We are able to prove that this fire was set in no other way, and, therefore, the only way left must have been the engine. There was no lantern in the barn for twenty-four hours before the fire, nor had there been any parlor matches on the place for over a year. I would like to ask, first, if we would be able to claim damages from the railroad company. I would also like to ask you if we would be able to claim damages in full amount, or the actual loss above the insurance. I might say that the same night sparks were seen to light on the site of the fire from an engine of a similar nature. J. A. H.

Ans.—Judging from the foregoing statement of facts alone, we would say that you are in a position to bring an action for your damages against the company, and for the full amount regardless of insurance.

HARDY GRAPES.

We are very much interested in fruit-growing. We are intending to plant out a lot of grapes. Could you kindly tell us as to the best kind, suitable for table use, to grow in this part of Ontario (Victoria Co.)? W. T. R.

Ans.—I would not recommend your planting grapes on a large scale until you have satisfied yourself by experiment as to what varieties will ripen in your district. The difficulty of growing grapes in northern districts is that the season is not long enough to allow the fruit to fully mature. It is important, therefore, in the selection of varieties to select the earliest-ripening kinds, which will be most likely to ripen before the frost destroys the foliage. I would recommend the following as a half dozen of the early varieties, including red, white, and blue, likely to succeed in your locality: Red—Delaware, Lindley and Moyer; white—Winchell; blue—Champion and Worden. Some of these, such as Champion and Moyer, do not rank among the best for quality, but they are extremely early and may be grown where the better varieties fail. If you succeed in growing these, I would advise you then to try some of the better varieties, such as Brighton, Vergennes, Niagara, Concord and Wilder. H. L. HUTT. O. A. C.

SPRAYING THE TRUE REMEDY.

Have noticed in an American paper an item recommending the use of a sticky substance applied to trees to prevent insects getting at work. Would you consider it likely to be a success? Do you think a bandage, or any other plan, applied to trunk of trees (fruit-bearing apple trees) would stop many of the most injurious insects or worms? If so, what per cent.? Also, what benefit could I do my young, growing apple trees by the bandaging of the trunks to prevent crawling insects or worms from getting to the head of tree? N. M.

Ans.—The claims made for "Tree Tanglefoot" in the enclosed clipping are quite correct, as far as they go. This sticky material will certainly head off all insects which climb up the tree trunk, but unfortunately only a very small proportion of the insects affecting fruit trees take that road to the top of the tree. The greater number of our most serious insects reach the tree by flying, or, as with the scales, are carried by means of birds' feet. Such bands upon the trunk, therefore, are of use only in cases where some of the species which crawl up the trunks are present in great numbers and cannot be poisoned fast enough by spraying. The fruit-grower must make up his mind that the only way to deal efficiently with the great host of insects affecting fruit trees is to spray thoroughly, and, if this is done, there will be but little necessity for banding the trunks at any time. O. A. C. H. L. HUTT.

STEVENS FIREARMS



although low in price, give you absolute up-to-date features and insure results equal to guns of much higher price.

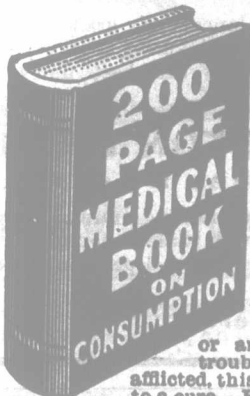
Stevens Single or Double Barreled Shotguns

are equally desirable for field or trap shooting. Both the double barrel Hammer and Hammerless Stevens shotguns are made with the celebrated Stevens check-hook, and new cross-bolt through extension rib, permitting heaviest charges of powder. Nitro-steel barrels, choke bored for any standard shell.

Send for 160-page catalog giving details of construction of Stevens shotguns and rifles for men and boys. Full of information every gunman should have. Sent free for 5c postage.

If your dealer can't supply you with genuine Stevens, notify us. J. Stevens Arms & Tool Co. 25 Front Street Chicago Falls, Mass. U.S.A.

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 any one 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 hopeless.

Write at once to the Yonkerman Consumption Remedy Co., 490 Ross 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. Don't wait—write today. It may mean the saving of your life.

WESTERN CANADA

IF YOU THINK OF MAKING A HOME IN THE WEST YOU SHOULD HAVE THESE

Free Books

"SETTLERS' GUIDE" "WESTERN CANADA" "TOURIST SLEEPING CARS" TIME TABLES

Just the practical information you need



Apply to nearest C.P.R. Agent, or to C. B. FOSTER District Pass. Agent, TORONTO

Cement Silos!

I am the inventor and manufacturer of the only extension steel silo curbs in Canada. They will build any size—from a cistern to a silo—any dimensions required. Any information freely given by writing

A. E. Hodgert, EXETER, ONT.

WHEN WRITING ADVERTISERS PLEASE MENTION THIS PAPER

Sure as the Sun



The
ELGIN
WATCH

Keeps Time to the Second

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., Elgin, Ill.

IMPORTANT DISPERSION SALE
Tuesday, March 24th.

40 Head of Holstein Cattle

12 registered, balance high grades; cows and heifers in calf, or with calves at foot, or due this spring. Heavy-milking strains; in fine condition. One of the best dairy herds in Oxford County.

Property of

JOHNSTON BROS., PUTNAM, ONT.
Two Miles from Putnam Station, C. P. R.

Teams will meet morning trains. Having sold farm and going west, sale will be unreserved. Sale to commence at 1 o'clock. Terms: 7 months' credit; 6 per cent. per annum off for cash.

Alex. Rose,
Auctioneer.

JOHNSTON BROS.,
Proprietors, Putnam, Ont.

We do not ask you to believe what we say about the good qualities of the Melotte. We ask you to judge for yourself. We offer you a free trial with-
out any signed order.

We know that the Melotte is the best cream separator made, that it will do the best work, will last the longest and cost the least for repairs; but, as we say above, we do not ask you to believe it.

Be your own judge. Try the Melotte on your own farm against any or all competing machines, and if you are not thoroughly convinced that it is the best, we will take it away without the trial costing you one cent. You need sign nothing until you are perfectly satisfied and decide to buy.

Send for catalogue and full information.

R. A. LISTER & CO., LIMITED,
Stewart Street, Toronto.

Melotte

Cream
Separator

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.

Miscellaneous.

VINE AND PLANT SPRINKLER WANTED.

I want to purchase two vine and planter sprinklers. On page 101 of a book I have entitled "How to Make the Garden Pay," by Wm. H. Maul, of United States, I find a very convenient vine and plant sprinkler described. It is just such a sprinkler as I have been looking for. Could you inform me, through your "Answers to Questions" department, if such a sprinkler can be purchased in Canada, and who is manufacturer or general agent? S. M. M. Pictou Co., N. S.

Ans.—We regret to inform our inquirer that we do not know of such a sprinkler made in Canada, and horticultural authorities whom we have consulted have to confess the same. Knapsack sprayers are manufactured by the manufacturers of spraying machines, and a very serviceable one may be purchased for from \$12 to \$15.

DIARRHEA IN LAMBS.

My last spring's lambs are dying of diarrhea. They last two or three weeks after taking sick. Their appetite gradually fails, and they have very great thirst. They are fed on clover and timothy hay, mixed. Would laudanum be of any benefit as a medicine to them, and how much is a dose for a sheep?

A. B.

Ans.—It is difficult to account for diarrhea on such dry food. It may be due to some poisonous weed in the hay, or to excessive drinking of cold water. We would advise giving them a little dry bran, with a few oats, mixed, and limit the supply of water. If convenient to warm their drinking water, it would be well to do so. Diarrhea is generally due to some irritating substance in the stomach or bowels, and, if you use medicine, we would advise castor oil, half a small teacupful, 1 dessertspoonful of laudanum, 1 teaspoonful of ginger, and 1 teaspoonful of baking soda. Mix in half a pint of lukewarm water, and give slowly as a drench from a bottle. After 24 hours repeat the prescription, excepting the oil. A second repetition may be advisable.

'CURING MEAT.

1. We saw in "The Farmer's Advocate" of January 23rd, a recipe for smoking meat. Is the pickle strong enough for the meat to be taken out and dried?

2. Would it be better to let it remain in the pickle for summer use? If so, how often should the pickle be changed?

3. I have taken pork out of the pickle, and partly dried it. Would it do to put it back with fresh pork and fresh pickle?

4. What temperature should pork be in while drying?

5. Would dried pork get any saltier if it was packed in a box with dry salt?

J. J. A.

Ans.—1 and 2. We copied the recipe exactly as it was given, and, as we had tried it, very fine, mild-cured, dried meat resulted. More salt could easily be added if thought best, and we would not hesitate to do it for meat that was to be kept a long time. We would prefer meat dried and smoked slightly to leaving it in pickle.

3. Have never tried it, but cannot see that any harm would be done.

4. We have known it hang from the kitchen ceiling, where the heat was so great that the fat dripped, and it came through all right; but a temperature of about 50 degrees would, no doubt, be better.

5. If the salt stayed dry, it would not; but sufficient dampness would likely develop to considerably increase the saltiness of the outer surfaces of the pork.

DOGS WORRYING CATTLE.

I have a number of young cattle running loose under a barn. The door is kept shut to keep them in. One of my neighbors has several dogs that enter my barn and worry my cattle. I have asked my neighbor several times to stop them, but he pays no heed. Would you please tell me if the law would allow me to shoot them or not? J. F. D. Ontario.

Ans.—No; but you may sue for damages; or it may be that there is a by-law of your municipality, passed pursuant to The Consolidated Municipal Act, containing suitable provision for such cases, and to which you can turn for your remedy.

TRADE TOPICS.

Manitoba and Saskatchewan farms of varying sizes, improved and unimproved, are advertised for sale in this paper by The Hanbury Manufacturing Co., of Brandon, Man. These lands are convenient to railway stations, in the best grain-growing sections, and will be sold on easy terms, a fine opportunity to secure desirable property in desirable districts. See the advertisement, and write for particulars.

IRON STABLE FITTINGS.—The Tisdale Iron Stable Fittings Company, of Toronto, Ont., advertise in this paper their complete cast and wrought iron, brass, bronze and nickel stable fittings. Farmers, horse dealers and others building new stables or remodeling old ones will be interested in enquiring into the efficiency and cost of these fittings, which are strong, durable, sanitary and also desirable as admitting light to the fullest extent, thus conserving the eyesight of horses and the health of all stabled stock. This firm also handle the Stewart horse-clipping and sheep-shearing machines. See their new advertisement in this issue, and send for their free catalogue, mentioning "The Farmer's Advocate."

EXTENSION STEEL CURBS FOR SILO CONSTRUCTION.

—The round cement-concrete silo is the silo par excellence to-day. Hundreds, if not thousands, are being used in Canada, and thousands more will doubtless be erected this spring. With the advice so often given through these columns, and once more repeated in the comprehensive article on cement-concrete construction, any handy farmer can build his own silo by the use of the steel rings, which are made for the purpose and very handy, and can afterwards pay for them by building silos for his neighbors. A. E. Hodgert, of Exeter, Ont., the original, and, we believe, the sole patentee of these extension steel curbs for round silo and cistern construction, is advertising them elsewhere in our columns. Those wishing to purchase the rings should write Mr. Hodgert, mentioning "The Farmer's Advocate."

MAKING THINGS SMOOTH.

—Have you ever stopped to think of how much time and worry and nervous waste, not to say real labor, is wasted because there is not enough care for the "little things"? What homemaker has not been annoyed day after day by a squeaking hinge or a creaking joint that the men were always going to oil with the oil-can brought from the tool-house or barn? An oil that will not only lubricate, but will also prevent rust and make a good polishing and cleaning compound, should be kept constantly in the house in a small can which can be kept handy for oiling locks, clocks, door hinges, etc., besides using for the sewing machine, for the boys' bicycles, for the men's guns and other firearms, and all mechanisms requiring a high grade of oil. Such an oil, it is claimed, is the Stevens Odorless Gun Oil, made by the J. Stevens Arms & Tool Co., of Chicopee Falls, Massachusetts. Where dealers do not have it, the makers will send it by mail, prepaid: a one-ounce bottle for 10 cents, and a four-ounce bottle for 25 cents. In ordering each size, add 5 cents to help pay postage. There should be a bottle of this smoother-out of difficulties in every home.

SUFFERING WOMEN

who find life a burden, can have health and strength restored by the use of

Milburn's Heart and Nerve Pills.

The present generation of women and girls have more than their share of misery. With some it is nervousness and palpitation, with others weak, daisy and fainting spells, while with others there is a general collapse of the system.

Milburn's Heart and Nerve Pills tone up the nerves, strengthen the heart and make it beat strong and regular, create new red blood corpuscles, and impart that sense of buoyancy to the spirits that is the result of renewed mental and physical vigor.

Mrs. D. O. Donoghue, Orillia, Ont., writes: "For over a year I was troubled with nervousness and heart trouble. I decided to give Milburn's Heart and Nerve Pills a trial, and after using five boxes I found I was completely cured. I always recommend them to my friends."

Price 50 cents per box or three boxes for \$1.25, all dealers or The T. Milburn Co., Limited Toronto, Ont.

CHAS. A. CYPHERS' Model Incubators and Brooders

On my Model Poultry Farm I now have poultry numbering 80,000 hatched and brooded in my famous Model Incubators and Brooders. Buying your incubators and brooders of a man who knows nothing (or next to nothing) about hatching and raising poultry is running a useless risk. Don't do it.



I not only sell you a Model Incubator or Brooder, but I add to them the valuable experience of years as shown in their construction. Model incubators show excellent hatches, hatch every hatchable egg. The Model Brooder grow sturdy chicks.

Send your order in to-day, and get in line with the profit getters. Free catalogue for everyone.

THE MODEL INCUBATOR CO. 196-200 River Street TORONTO, ONT.

To Kill Lice or Ticks Use WEST'S Disinfecting Fluid

CURES AND PREVENTS

CONTAGIOUS ABORTION.

Write for our special circular by veterinary. Our Offer: 5 Gallons, \$6 50; Freight Prepaid.

The West Chemical Co., 125 Queen St., E., Toronto, Can.

STUMP PULLERS



We are the largest manufacturers of Stump Pullers in Canada. It does not matter whether you have light or heavy work, we have machines adapted for your purpose. Every machine is sold on a guarantee. Write for catalogue F. Canadian Swensons, Limited LINDSAY, ONTARIO.

The curtain fell in the second act, and he began to make conversation. "The Lusitania," he said, "can steam her twenty-six knots an hour." Taking another cue from the box that rested in her lap, he said with a bright smile, "I suppose they steam the knots so that the poor sailors can untie them more easily. That it, George?"

QUESTIONS AND ANSWERS. Miscellaneous.

PINE TAR ON MANGERS—CLIPPING COWS' FLANKS AND UDDERS.

The following I have found effective in preventing horses from cribbing: Pine tar rubbed where they are in the habit of biting. Have you tried using the horse clippers to remove the hair from milk cows' udders?

Ans.—Horse clippers may be used to advantage in clipping the hair off the tails, flanks and udders of the cows.

FERTILITY OF STALLION.

Three-year-old stallion was bred to 67 mares, foaled 53; at four, bred to 80 mares, foaled 40; at five, bred to 87 mares, foaled 35; at six, bred to 90 mares, foaled 20. With good care and handling and continued travelling is there danger of him soon becoming sterile? What is good to feed a stallion?

Ans.—We should say the indications are that the horse was bred to too many mares the first season, discounting his future usefulness. Forty mares are quite as many as a three-year-old horse should serve. His powers may be conserved by rejecting mares that have proved doubtful breeders. Boiled oats and barley, with a handful of ground oil cake and some bran, makes good feed for a stallion. As a stallion's fertility depends largely upon his general health and vigor, he may yet improve in this respect.

Veterinary.

LAME HORSE.

Horse has been lame for two months. He is worse when turning around. When going straight, you can scarcely notice him lame. We got him shod, and the blacksmith says the foot is all right. He was very lame after being shod. We put him in a box stall, and he is much better, but still lame.

Ans.—Notwithstanding the blacksmith's opinion, I am of the opinion the lameness is in the foot, and this opinion is strengthened by the fact that for a time after having the shoe put on freshly, he was worse, due to the tight clinching of the nails. Remove the shoe. Clip the hair off all around the hoof for two inches high. Make a blister of two drams each of biniodide of mercury and cantharides, mixed with two ounces vaseline. Tie so that he cannot bite the parts. Rub well with blister once daily for two days. On the third day wash off and apply sweet oil. Turn him loose in box now, and oil every day. As soon as the scale comes off, tie up and blister again, and, if necessary, repeat the blister after this every four weeks.

WORMS.

Mare is not doing well, and, occasionally, passes small white worms. I gave a prescription I noticed in "The Farmer's Advocate," but it did no good. Then I saw about giving an injection of a decoction of quassia chips. I have done this. How often should it be done?

Ans.—The injection per rectum is to remove pinworms that are lodged there, and once should be often enough to treat. Take half a pound quassia chips and add two gallons water in a pot. Put on the stove and fetch to a boil. Then allow to almost boil for four or five hours, adding a little water, if necessary. Strain off now, and add sufficient warm water to make a gallon. Inject the rectum with warm water first to remove all faeces. When this is expelled, inject the decoction, and hold the tail down for at least half an hour to prevent her expelling it. The worms, if any be present, will be expelled with the fluid. It is probable your mare has worms in stomach and small intestines, and, if so, should be treated as follows. Take three ounces each of sulphate of iron, sulphate of copper, calomel and tartar emetic. Mix, and make into 24 powders. Give a powder every night and morning, and, after the last one has been given, give her a purgative of eight drams aloes and two drams ginger. Feed bran only for twelve hours before and twenty-four hours after giving the purgative, and do not work her until her bowels become normal.

Galt "Sure-grip" Shingles

Surprising how easily and rapidly a roof may be covered with Galt "Sure-grip" Shingles. Simple matter to lock the sides together, and just as easy to lock the top shingle to the one below.

The nails are "concealed"—can never pull out. Galt "Sure-grip" Shingles lie so closely to the roof that they really might be said to be cemented on. And they lock together in the tightest kind of a grip. These shingles form a solid armor of galvanized steel, affording not the slightest opening for wind to get under. They can't drop off or blow off; neither can they rust or burn off.

Just as cheap as ordinary shingles. Last a life time. The wisest kind of an investment to make.

Catalogue and further information free on request.

THE GALT ART METAL CO., Limited GALT, ONT.

—THIS IS THE SHEET METAL AGE.—



Standard Woven Wire Fence

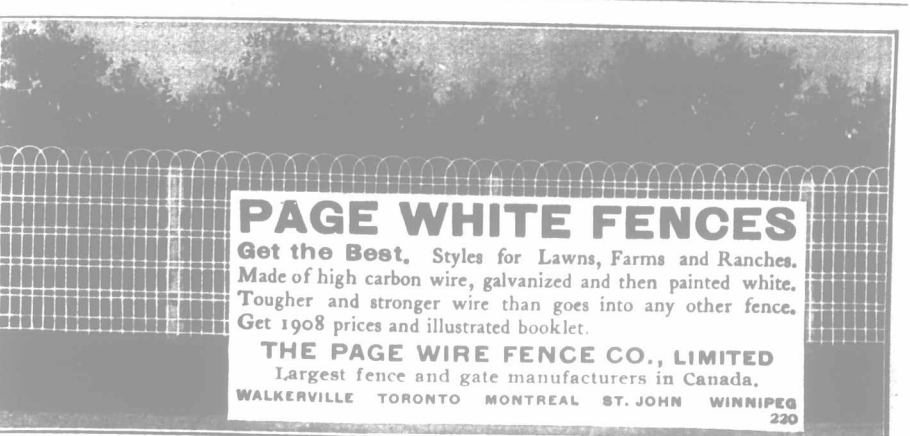
Did you ever examine The Standard Wire Fence? If not, you should before giving an order for your requirements. The fact that others are trying to imitate it, is proof of its superiority. The Tie That Binds will not slip, and is really the strongest lock on the market; note how it hooks on the line wire. Write direct to the factory for catalogue and sample book.



Mica Roofing

For steep or flat roofs, waterproof, fireproof, easily laid, cheaper than other roofing. Send stamp for sample and mention this paper.

HAMILTON MICA ROOFING CO., 101 REBECCA ST., HAMILTON, CANADA.



PAGE WHITE FENCES

Get the Best. Styles for Lawns, Farms and Ranches. Made of high carbon wire, galvanized and then painted white. Tougher and stronger wire than goes into any other fence. Get 1908 prices and illustrated booklet. THE PAGE WIRE FENCE CO., LIMITED Largest fence and gate manufacturers in Canada. WALKERVILLE TORONTO MONTREAL ST. JOHN WINNIPEG 220

ADVERTISE IN THE ADVOCATE

Pure and Clean Clover and Timothy Seed.

PRICES OF MY BEST BRANDS FOR IMMEDIATE ORDERS.

These all Grade No. 1, Government Standard.

You run no risk of	"Sun" Brand Red Clover\$14 00 per bush.
Buckhorn	"Sun" " Mammoth Clover 14 00 "
Ragweed	"Ocean" " Alsike 13 00 "
Catchfly	"Gold" " Alfalfa 13 00 "
Mustard	"Diamond" Brand Timothy Seed 3 50 "

A GRAND NEW WHITE OAT.

LOTHIAN WHITE—Last season this grand oat drew attention wherever grown. Any one that saw a field could not help but admire the superb, strong, healthy crop. **IT IS EARLY. STRONG STRAW** of medium length. Ontario-grown Stock at \$1.25 per bush. Scotch-grown Stock at \$1.75 per bush.

BAGS, 25c. Each. Send for Samples, also Catalogue

GEORGE KEITH, Seed Merchant, TORONTO, CANADA

"Leader" Fence



Has the Double Grip Lock

Don't buy wire fence until you've seen our new woven fence which is so vastly superior that we have appropriately named it the **Leader**. It is a hard steel wire fence, heavily galvanized—both laterals and stays No. 9.

But the "Leader" Lock—that is the really great improvement. It has the double grip—makes twice as strong a binding—twice as strong and durable a fence. Of course, it takes more wire, but it makes a fence so much better that it will be that much easier to sell. Will give such genuine satisfaction that we are certain of repeat orders from all purchasers.

Will You Sell "Leader" Fence For Us

in your locality? Also act as our representative for our complete line of farm and ornamental fence and gates? Write to-day for our money-making proposition.

Frame & Hay Fence Co., Ltd., Stratford, Canada

THE DEERING

for

GRAIN CUTTING WITHOUT INTERRUPTIONS



WHEN the grain is ripe you want the work of harvesting to go right along. You cannot afford to be annoyed by breakages and delays. Breakages and tinkering with the knoter or other parts to get them to work right means more than vexatious delays. It means expense and it may mean that you will not get your grain harvested in good condition.

The Deering binder comes nearer giving you insurance of uninterrupted work than any machine you can buy.

What can be more satisfactory to the grain grower at the beginning of harvest than to have a machine he knows he can depend upon?

The Deering binder is such a machine. It has stood the test in thousands of harvest fields. It is not only dependable and right working but it harvests all the grain. It handles tall and short, light and heavy, down and tangled grain all to a nicety and with least possible loss. Machines are made in 5, 6, 7 and 8-foot cuts. In addition to grain harvesting machines the Deering line includes binder twine, mowers, tedders, sweep rakes, side delivery rakes, hay loaders, stackers, corn machines and knife grinders. Also a complete line of tillage implements and seeding machines, comprising disk drills, shoe drills, hoe drills, cultivators and seeders, smoothing, spring-tooth and disk harrows, land rollers and scufflers. Also gasoline engines, cream separators, hay presses, feed grinders, wagons, sleighs, and manure spreaders.

For all particulars call on the local Deering agent or write to any of the following branch houses for catalog:

CANADIAN BRANCHES: Calgary, Alta., Hamilton, Ont., London, Ont., Montreal, P. Q., Ottawa, Ont., Regina, Sask., St. John, N. B., Winnipeg, Man.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U. S. A. (Incorporated)

QUESTIONS AND ANSWERS. Miscellaneous.

WATER SYSTEM IN BARN.

1. Would like to know if a windmill that is set 40 rods from the barn would pump water to stable?
 2. Which would be best, a cement tank in stables, or a galvanized tank, overhead, in the hay now, and a small trough in open shed, or to put in water basins? A. W. H.
- Ans.—1. Certainly, if arranged properly.
2. A galvanized-iron tank of the shape of a half cylinder, hung close up to overhead timbers of stable, is one of the best styles of water tank. The heat of the stable removes all danger of freezing. If there is a sheltered shed, we would prefer to let the stock out there to water. A certain amount of needful fresh air and exercise would thus be ensured them.

SEEDING DOWN HIGH GRAVELLY SOIL—ALFALFA.

1. Which is, Mammoth or Red clover, best to sow for hay, with or without timothy, for two years' cutting; sandy loam soil?
 2. What would be a good mixture for seeding for hay on high land, gravelly soil?
 3. Can alfalfa be grown with oats as a nurse crop, or can it be grown without nurse crop? YOUNG FARMER.
- Ans.—1. We prefer red clover, which makes better hay than Mammoth, and also produces a liberal aftermath, which the Mammoth does not.
2. Timothy, 4 pounds; red clover, 8 pounds; alsike, 2 pounds per acre.
 3. A bushel or five pecks of oats per acre makes a very fair nurse crop for alfalfa, though barley is much better, and no nurse crop at all is better still.


DRAINAGE QUESTIONS.

- I would like information concerning a tile drain which I propose putting through a portion of my farm. This drain should act as an outlet to the farm adjoining mine. I have lots of fall for my portion of the drain, but I want to get the depth. I want to go so that I will be deep enough to give my neighbor an outlet.
1. Should he have to give me the depth of drain at line fence between him and me, or have I to survey his portion of the drain on his farm? I want to get this drain down so that I will have no further trouble with it.
 2. How much fall should six-inch tile drain have to every 100 feet to insure working properly?
 3. Would two side drains, emptying into main drains, side drains being about 50 rods long, be better than one side drain with laterals running into side drain? G. M.
- Ans.—1. Since the drain is being put in amicably, that is, without legal proceedings of any kind, there is nothing in any of the Drainage Acts that would have any bearing on the case. Since you are willing to put in this outlet drain that will benefit your neighbor very materially, it seems only fair that he should be willing to examine his land and tell you how deep the drain should be at the line fence. There is nothing, however, to compel him to do so.
2. Two inches of fall to every 100 feet.
 3. Two side drains emptying into a main drain would be better than one side drain with laterals, for this reason, that when the side drain or lateral empties into a main or sub-main, the last 50 feet is almost valueless so far as draining the land through which it passes is concerned, for the main or sub-main already drains about 50 feet on either side; consequently each unnecessary junction is a loss of 50 feet of drain. With the two long side drains, you would have only two junctions, while with one side drain, with laterals emptying into it, you would have four or five junctions, and the drainage would be no better in the second case than in the first. Hence the first is better, because cheaper to put in. W. H. DAY.

"What sort of a table do they use at your boarding-house?" asked the young man, who was contemplating a change.

"A table of waits and messes," replied his friend. "The first long and the latter short."

Lump Jaw



The first remedy to cure Lump Jaw

Fleming's Lump Jaw Cure

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

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

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

Manitoba Farms FOR SALE.

Valuable improved farm, section 27, township 8, range 20, west 1st P. M., in one of the best wheat belts in Manitoba, two miles west of H. yfield, with elevators on G. N. Railway, and sixteen miles south-west of Brandon. There are three hundred and eighty acres under cultivation, of which three hundred and forty are ready for wheat. There is also a full outfit of new machinery, which could be sold with the above property if required.

One section of land, being the east half of section 20, and west half of section 21, township 8, range 11, west of the 1st, four miles north of Hollard, on the Glenboro branch of the C. P. R. There are fairly good buildings on this property. There are three hundred and forty acres under cultivation, of which one hundred and seventy acres are ready for seeding.

Saskatchewan Farms FOR SALE.

For sale, the whole of section 15-43, west of the 3rd, eight miles west of Red Berry Lake, and ten miles north of Fielding, on the C. N. R., six hundred and forty-two acres—all virgin prairie, and being one of the nicest sections in the district, practically the whole section can be broken.

Any of the above lands will be sold for quick sale at sacrifice prices, and terms can be made to suit the purchaser. For further particulars apply to the owner.

THE HANBURY MANFG. CO., Brandon, Man.

Kendall's Spavin Cure

PORTAGE RIVER, N.B., March 5 '06.

"I am using your Spavin Cure and can say there is nothing to be compared with it." Gilbert Muzerall.

Kendall's Spavin Cure

Cures: Spavins, Thoroughpin, Curb, Splint, Ringbone, Sores, Swellings, Sprains, Bruises, and all Lameness.

\$1 a bottle—6 for \$5. Our great book—"Treatise on the Horse"—free from dealers or Dr. B. J. KENDALL CO., Essexburg Falls, Vermont, U.S.A.

You Can procure a Self-supporting Home

In the glorious Kootenay fruit district, British Columbia, for \$10 cash and \$10 per month for ten acres. (Discount for larger payments.) Annual profits, \$50 to \$1000 per acre. Orchard, garden, poultry, grand scenery, hunting, fishing, abundant pure water, healthy climate, warm winters, cool summers; churches, schools, post offices, street cars, daily express trains, lake steamboats within five minutes' walk; fine neighbors, comforts of civilization, combined with delightful rural community. Will send maps, photos, plans, proofs free. Refer to banks and commercial bodies, also hundreds of purchasers. Write to day. Address **LAND DEPARTMENT, Kootenay Orchard Association, 459 Ward St., Nelson, B. C.**

CARRIAGES

Write for catalogue and prices.

R. D. MILNER, Chatham, Ont.

Iron and Wire Fences

Plain and heavy, also light and ornamental. #7 Wire or Iron Fences. Highest grade at lowest prices. Write for catalog. FREE. Enterprise Foundry & Fence Co., 228 S. State Ave., Indianapolis, Ind.

NEWEST AND STRONGEST FENCE

For years farmers have been hoping for a really perfect woven fence—one that would be proof against the onslaught of the ugliest bull or the rooting proclivities of the meanest sow—one that would withstand the Canadian climate. At last, they are rewarded in the London Woven Fence—the newest and strongest fence.



No. 9 Gauge for wires and locks. An evenly tensioned fence, with the exact temper and coil to take up summer expansion—to stay tight and solid in all degrees of temperature. An immensely improved lock—holds the wires as solidly as if bolted together. No bruised or indented laterals, where this lock is applied. Every wire retains its full original strength. All strands of even length. Every roll guaranteed first class.

AGENTS WANTED in unrepresented districts.
LONDON FENCE MACHINE CO., Limited

LONDON - - - - - ONTARIO

AUCTION SALE

Imported and Canadian-bred Horses

McGARVIN BROS. will offer at public auction at their Feed and Sale Stable, Chatham, on

THURSDAY, MARCH 26th, 1908,

At 1 p.m. sharp, rain or shine, the following:

Dapple-gray stallion, Courbillon (44897) 11810, 40623; dapple-gray stallion, Victor Hugo 10869; black stallion, Brilliant 15482; black stallion, Blackbird 10874; black stallion, Mignon, for whom certificate has not yet arrived, but will be here in ample time for sale. Courbillon is registered in both the French Draft Book of France and of America, and the American Percheron Horse Breeders and Importers' Association; the latter four are registered in the French Draft Book of America, in which the following mares are also entered: Dark steel-gray mare, Castellet 15478; black mare, Lottie 15481; white mare, Silphide II 10871; black mare, Cassie 10873. Also twenty head of half- and three quarter-bred mares and geldings, two years old and upwards, and several brood mares in foal to Courbillon. Matched carriage team of sorrel mares, four and five years old, by Simon 27679, out of a Bluebull mare, supposed to have a mark of 2.15½. Matched team of black geldings, four years old. Any person needing a high-class team of this stamp will do well to see them, as they are perfectly sound, stand 16½ hands, good lookers and actors, and weigh over 1,500 lbs. each. Bay stallion, 6 years old; Sidney R., a bay gelding, 5 years old, and a bay gelding three years old, all by Simon 27679, out of Roadine, out of Roadmaster; bay gelding, 4 years old, by Simon 27679, out of the dam of Gallagher, 2 03½, and Owen Gallagher, 2.16½; bay gelding, 4 years old, by Highnoon; bay gelding, 4 years old, by Agitator; brown gelding, 8 years old, by Keltio, and a blue-roan gelding, 4 years old, by Tom Collins. This one is the makings of a grand saddle beast.

One year's time given on good bankable paper, or a discount of 7 per cent. allowed for cash.

Catalogues on application.

McDUG & HARRINGTON, Auctioneers. McGARVIN BROS., Props., Chatham, Ont.

Great Dispersion Sale of Imp. and Home-bred Live-stock

35 Shorthorn Cattle, about 100 Cotswold Sheep, 50 Yorkshire and Ohio Improved Chester White Swine, 5 Clydesdales and 5 Hackneys,

The property of Mr. W. A. Bagshaw, at Rosehill Farm, Uxbridge, Ontario,

THURSDAY, MAR. 26, '08

In case of inclement weather sa'e will be held under cover. Conveyances will meet all morning G. T. R. trains at Uxbridge station on day of sale. All animals will be at risk of purchaser when bid off, but those shipped by train will be loaded on cars at Uxbridge free of charge. Terms: nine months' credit on approved notes, with interest at 5 per cent. per annum. For catalogues and fuller particulars address:

W. A. BAGSHAW, Box 108, Uxbridge, Ont. G. Jackson, F. Silversides, Auctioneers.

When Writing Advertisers Please Mention this Paper.

GOSSIP.

Parties looking for good farm horses, heavy-draft teams, Percheron stallions, or carriage and road horses should look up the advertisement in this paper of the auction sale of imported and Canadian-bred Percherons, matched teams and high-class road horses, the property of McGarvin Bros., Chatham, Ont., to be sold at their stables in that city on March 26th, on a year's time on bankable paper. This will be a good place to see some excellent grade Percheron geldings and mares, as well as pure-bred Percherons, imported and home-bred.

W. A. BAGSHAW'S SALE.

On March 26th, as advertised in this paper, Mr. W. A. Bagshaw, Uxbridge, Ont., will sell at auction at his farm there, 35 Shorthorn cattle, 100 Cotswold sheep, 50 Yorkshire and Chester White swine, 5 Clydesdales and 5 Hackneys, on nine months' time. The Clydesdales include an imported mare, five years old, a show mare, a grand breeder, and a prizewinner; two young stallions, one and two years old, by the World's Fair champion, Macqueen, one of the greatest of Clydesdale sires, and a span of heavy-draft mares, five and six years old. The Hackneys are by the noted champion sires, Royal Standard, Saxon and Royal Oak. All are of fine type and quality. A beautiful three-year-old mare, which has won many first prizes, is included. The Shorthorn herd is headed by the imported red yearling bull, Imp. Deeside Ranger =64225=, a son of Sittytton's Choice and Rosetta 15th =70834=, by Scottish Prince. He won first prize and sweepstakes in strong competition with noted imported bulls at North Ontario Show, 1907. The Cotswold ewes are pure-bred and high grades of excellent type and quality, and will be good property to secure with present prospects for a growing demand. The sale will be held under cover in case of stormy weather. Conveyances will meet trains at Uxbridge on morning of sale, and stock will be loaded on cars free of charge. Uxbridge is 40 miles north-east of Toronto, on the Milland branch of the G. T. R. This is a dispersion sale, and everything offered will go to the highest bidder.

THE GARDNER-PEARSON POSTPONED SALE.

The auction sale of 42 head of Shorthorns, the property of Messrs. F. A. Gardner, Britannia, and S. J. Pearson, Son & Co., Meadowvale, Ont., announced to be held on March 3rd, but postponed on account of the snow blockade, is now advertised to take place on April 8th, at the farm of Mr. W. B. Gardner, near Meadowvale Station (C. P. R.), which is two miles from Streetsville Junction, and twenty-four miles west of Toronto. The offering includes the whole of Mr. Gardner's herd of 20 head (16 females and four bulls), and Messrs. Pearson, Son & Co. contribute 22 head (13 females and 9 young bulls) from their excellent Valley Home herd. These cattle are richly bred; several of them imported, and many of choice Scotch families, while others are of good old dual-purpose strains, some of the cows being deep milkers. In Mr. Gardner's herd is the imported red-roan bull, Gold Mine =50342=, also Scottish Archer =59603=, a roan three-year-old bull, from imported sire and dam, and two yearling bulls, Brawith Prince, of the Cruickshank Brawith Bud tribe, by Imp. Prince of Archers; and Crown Prince by Imp. Gold Mine. The Valley Home bulls are by Royal Diamond 2nd, from imported sire and dam, by same sire as Senator Edward's Royal Favorite, a Toronto champion; and by Royal Scot, also from imported sire and dam. This will be a good opportunity to get a few good heifers or young cows, or a good young bull at the buyer's price, as all must be sold, Mr. Gardner having rented his farm, and Messrs. Pearson have given up a rented farm and are overstocked. Brampton (G. T. R.) is only about 75 miles from Meadowvale.

The following appeared in an Irish newspaper:

Whereas John Hall has fraudulently taken away several articles of wearing apparel without my knowledge, this is, therefore, to inform him that if he does not forthwith return the same his name shall be made public."

a \$3,000 Stock Book Free

Contains 183 Large Engravings

This book cost us over \$3,000 to produce. The cover is a beautiful live stock picture, lithographed in colors. The book contains 160 pages, size 6½ x 9½, gives history, description and illustration of the various breeds of horses, cattle, sheep, hogs and poultry. Many stockmen say they would not take five dollars for their copy if they could not get another. The finely illustrated veterinary department will save you hundreds of dollars, as it treats of all the ordinary diseases to which stock are subject and tells you how to cure them.

Mailed Free Postage Prepaid Write for it at once and answer the following questions:

- 1st—Name the paper you saw this offer in.
- 2nd—How many head of stock do you own?

ADDRESS AT ONCE

INTERNATIONAL STOCK FOOD CO. TORONTO, CANADA

Sole Manufacturers of

INTERNATIONAL STOCK FOOD

THREE FEEDS FOR ONE CENT

INTERNATIONAL STOCK FOOD, FEEDS FOR ONE CENT, is a purely vegetable MEDICINAL preparation composed of roots, herbs, seeds, barks, etc. It is equally good and very profitable to use with horses, colts, cattle, cows, calves, hogs, pigs, sheep or lambs, because it purifies the blood, tones up and permanently strengthens the entire system, keeps them healthy and generally aids digestion and assimilation, so that each animal obtains more nutrition from the grain eaten. In this way it will save you grain and MAKE YOU LARGE CASH PROFITS. You don't spend money when you feed International Stock Food. You save money because the GRAIN SAVED will pay much more than the cost of the International Stock Food. Refuse all substitutes and get paying results by using only the genuine International Stock Food.

3 FEEDS FOR ONE CENT

Largest Stock Food Factories in the World

CASH CAPITAL PAID IN, \$2,000,000

We Manufacture and Guarantee:

- International Stock Food
- International Poultry Food
- International Louse Killer
- International Worm Powder
- International Heave Cure
- International Colic Cure
- International Harness Soap
- International Foot Remedy
- International Hoof Ointment
- International Pheno Chiere (Disinfectant)
- International Compound Absorbent (Spavin Cure)
- International Gall Cure
- International Stock Dip
- International Distemper Cure

Sold on a CASH GUARANTEE of Satisfaction by 125,000 Dealers

Dan Patch Mailed Free

When you write for Stock Book mentioned above ask for a picture of Dan Patch 1.55, and it will be included free of charge.

INTERNATIONAL STOCK FOOD CO. TORONTO, CANADA

Imported Clyde Stallions and Fillies For Sale, sired by Marcellus and Prince Alexander; one home-bred stallion rising two years, black, imported-bred.

ALEX. McCREGOR, Uxbridge, Ont.

Subscribe for "Farmer's Advocate"

CALVES NEED NOT SUFFER FROM SCOUR.

A buyer writes: "I have used

MOLASSINE MEAL

For my young calves, and never had a case of scour since."

Not a condiment, but a valuable food, replacing other foodstuffs.

ANDREW WATSON, Sole Importer, 91 Youville Square, Montreal, Can.

JOHN CHAMBERS & SONS
Holdenby, Northampton, England.

Shire horses shown or imported by us won at the Ontario Horse Breeders' Show, 1908:

1st, stallion foaled 1905.
2nd, stallion foaled previous to Jan. 1, 1905.
1st, 3rd and 4th, mare foaled subsequent to Jan. 1, 1905.
2nd and 4th, mare foaled previous to Jan. 1, 1905.

We have several extra good fillies coming three years old safe in foal, and some stallions with weight and quality. Guaranteed foal getters. All are priced right.

C.K. Geary, St. Thomas, Ont.

Largest Importation of Clydesdales, Hackneys and Percherons of the Year.



My latest importation has just arrived home. I have now on hand for sale: 20 Clydesdale stallions from 1 to 5 years of age; 20 Clydesdale fillies from 1 to 4 years of age; 15 Hackney stallions from 2 to 8 years of age; 15 Hackney fillies, all young; and 4 Percheron stallions 2 and 4 years of age. A total of 75 head, with size, quality and action, and bred in the purple. Largest selection in Canada. Will be sold right, and on terms to suit.

T. H. HASSARD, MILLBROOK, ONT.



CLYDESDALES

At Columbus, Ont., the home of the winners, this year's importation just arrived. The pick of Scotland's best. For size, style, conformation, quality and royal breeding, they eclipse any former importation we ever made. Look them up in our barn on Exhibition Grounds. Over 30 head to select from.

SMITH & RICHARDSON, COLUMBUS, ONTARIO

Shires, Shorthorns and Lincolns.

At present we are offering a very choice consignment of imported stallions, mares and fillies received from the great Shire stud of R. Moore & Sons, Beeston Fields, Nottingham, England. They are a grand lot, and will be sold at right prices.

In Shorthorns we have a number of choice young bulls, three of them show animals; also an excellent lot of females—all ages.

John Gardhouse & Sons, Highfield, Ont.

Toronto, 14 miles. Weston, 3 1/2 miles.



Long-distance phone.

FOR SALE OR EXCHANGE: IMP. SHORTHORN HERD BULL, British Flag (50018)

Quiet, active and sure. Would take a Clyde, Shire or Percheron mare in exchange. Value for value.

JOHN M. BECKTON, Elm Park Stock Farm, Glencoe, Ont.

IMP. CLYDESDALE STALLIONS AND FILLIES.—Our new importation of stallions and fillies are the best we could select in Scotland, particularly well bred, with the size, smoothness and quality that Canadians admire. Show-ring stuff. Come and see them. Will sell on terms to suit. JOHN A. BOAG & SON, Queen'sville P. O., Ont., Newmarket Sta., G. T. R. Telegraph and telephone one-half mile from farm. Metropolitan Street Ry. from Toronto crosses the farm.



IMPORTED CLYDESDALES Up to over a ton in weight, with the very richest of breeding and the best of quality. I think no better shipment of stallions ever left Scotland. I have also nine fillies, without doubt the best lot in Canada. All will be sold cheap and on terms to suit. Long-distance phone. GEO. G. STEWART, HOWICK, QUE.

2 IMPORTED CLYDESDALE FILLIES

Sired by Prince Alexander and Macgregor's champion, recorded in Clydesdale Stud-book of Canada. Terms and prices reasonable.

Robt. McEwen, Byron, Ont. London Ry. Station.

Imp. Clydesdales (Stallions and Fillies), Hackneys, Welsh Ponies.

I have now on hand Clydesdale stallions and fillies—Scotland prizewinners and champions; Hackney fillies and Hackney pony; also Welsh ponies. There are no better animals, nor no better bred ones, than I can show. Will be sold cheap and on favorable terms. A. AITCHISON, GUELPH P. O. AND STATION.

SIMCOE LODGE CLYDESDALES

Our stable of imported and Canadian-bred Clydesdale stallions and fillies was never so strong in show stuff as now, although we have had some very strong lots. Call and see what we have before buying elsewhere. HOOGLINSON & TISDALE, BEAVERTON, ONT., G. T. & G. N. R. Long-distance phone.

OAK PARK STOCK FARM HACKNEYS!

Four imported and home bred stallions for sale. Ten imported and home-bred mares for sale. Among these are prizewinners at Toronto, Chicago and New York. Prices reasonable. Visitors always welcome to inspect stock. JAS. J. BROWN, Manager, BRANTFORD, CAN.

Imported Clydesdales I have on hand for sale 7 choice Imp. Clydesdale mares 3 and 4 years old. All in foal. They have size, quality and grand action. An extra good lot. Also the 6-year old Imp. stallion, Fiscal Member (6149), a horse of great size, grand quality, and a sure getter. All these are richly bred. Write for particulars. M. HOLBY Manchester P. O. and Station. Long distance phone.

GOSSIP.

Twenty-five pure-bred Holstein cows, heifers and young bulls are advertised to be sold by auction, two miles from Hespeler (G. T. R. and C. P. R.), ten miles south of Guelph, on March 26th, the property of Elias Pannabecker, Hespeler, Ont. The terms of the sale are ten months' on approved paper. This should be a good chance to secure heavy-milk stock that are moneymakers.

HAS TRUE MERIT—CURED FISTULA

Feeling that true merit should be recognized, I want to give my experience with Gombault's Caustic Balsam. A month ago one of my horses gave every indication of having a fistula. I was told that this case was incurable, but sent for a bottle of Gombault's Caustic Balsam, and applied it per directions. The case yielded to the treatment from the first, and the horse is now entirely cured.—C. T. GREATHEAD, Tancred, Cal.

SHIRES BOOMING.

At Lord Rothschild's annual sale of Shire horses, on Feb. 21st, at Tring Park, the record price for a yearling of 900 guineas was realized for the colt, King Cole, whose picture appears on another page in this issue. The three-year-old stallion, Reliance 6th, sold for 800 guineas, and the four-year-old, King of the Ros's, for 640 guineas. Seventeen stallions and colts averaged over £346, and 18 mares over £162, a net average of £266 (\$1,330) for 35 head.

THE PERTH SHORTHORN SALE.

At the annual spring show and sale of Shorthorns at Perth, Scotland, on Feb. 25th, 274 bulls were sold at an average of £37, or \$185. Owing to the outbreak of foot-and-mouth disease in two or three dairy herds in one district in Scotland, no foreign buyers, and none from Ireland, were buying, which easily accounts for the fact that the average this year for bulls at this sale was little more than one-half that of 1907, viz., £63 17s; still, some pretty stiff prices were paid for choice young bulls. The highest price, 500 guineas (\$2,625), was paid by Mr. Harcourt, of Cumberland, for Jim Sidey, the third-prize bull in his class, from the Ballechin herd of Mr. Robertson, Mr. Duthie being the runner-up. Four hundred and five guineas was the second highest price, paid by Mr. Handley, Milnthorpe, for Mr. Robertson's Golden Gift. Mr. Duthie paid 350 guineas for Polmaise Jubilent, bred by Mr. J. Murray, Polmaise Castle, a red, sired by Ruddington King Edward. He is a great, stylish bull of the Lady Waterloo tribe; his sire being a son of the Scotch-Bates-bred bull, Scottish Thorndale Duke (77832), and of a Seraphina-bred cow. Mr. A. T. Gordon Combscausaway, had out Count Fascinator, a beautifully level, light roan son of Fascinator and Countess 17th, which was placed second in his class. He was withdrawn from the sale at 280 guineas, the reserve price being placed at 400 guineas. He was one of the most likely show bulls in the list.

TRADE TOPICS.

Hand-selected seed corn on the ear is advertised in this paper by Mr. J. O. Duke, Ruthven, Ont., who makes a specialty of raising first-class varieties for the seed trade, and whose stock in past years has given good satisfaction to purchasers. Send for price list to J. O. Duke, Ruthven, Essex Co., Ont.

SEED OATS.

Mr. Geo. Keith, Seed Merchant, Toronto, Dear Sir,—Last season I grew a field of your Lothian White Oats, and was well pleased with the result. They were the only oats on the place that did not suffer from the blight. The straw was bright, strong and of medium length. The heads were long, even and well-filled. They are a very early oat, our crop being cut and threshed by the 12th of August. Yours truly,

M. A. B. MORRISON,
Manager Dentonia Park Farm,
York Co., Ont.

GOOD REPORTS.

Home-mixed Stock Food a Success.

A short time ago we published in this column a formula for preparing Stock Food at home from Barnes' English Compound and fresh nutritious grains. We have received so many words of praise for this formula that we are reprinting it for the benefit of those who may have chanced to miss it.

The advantage of making your own Stock Food at home, using only the pure medicines and fresh grains and avoiding harmful drugs and worthless fillers, is certainly of great importance to every farmer and stockman.

The formula is as follows: Mix three pounds Linseed Meal and six pounds Corn Meal with one pound Barnes' English Compound. It will make ten pounds of purest and strongest Stock Food that can be made. S. G. Amsden, Box 668, Windsor, Ont., will send one-pound package, postpaid, on receipt of 50c., money order or stamps.

OAKLAWN FARM

400 HEAD

We offer largest and choicest collection Most reasonable prices Safest guarantee

THE BEST
Percherons, Belgians
French Coachers

Horses delivered to any part of United States or Canada free of charge.

Three large importations since July 1st, including tops of twenty leading breeding establishments of France. Visit us.

DUNHAM & FLETCHER

WAYNE, DU PAGE COUNTY, ILLINOIS

Every breeder that has a mare in foal should use

Wilhelm's
Brood Mare Special

insuring a good strong, healthy foal requiring no nursing. Send for testimonials. We authorize dealers to refund the price if the result is not as guaranteed. Price, \$1.50 per package. Send either Postal Note or Money Order.

WILHELM & MOORE, Shakespeare, Ont.

J. WILHELM, V. S., G. A. MOORE,
Specialist on Generation. Manager.

Shetland, Welsh and Iceland Ponies

Present Offering: Piebald gelding, rising 2 years, about 13 hands. Bay stallion, rising 2 years, about 12 1/2 hands. These two are driving nicely now. Welsh filly, rising 1 year, dark grey; should make, when matured, a pony about 11 hands. Pair of Shetland mares, bred, and others.

E. DYMENT, Copetown Ont.
Gilead's Spring Farm.

FOR SALE: CLYDESDALE STALLION rising 3 years this spring. Grandson of Imp. Bold Boy. His sire full brother to a world-champion show horse at Chicago. A light chestnut. White face. Well feathered. Good mane and tail. Stands 16 hands. Good block and splendid action. Plenty of good flat bone. Was bred to 13 mares last season. 9 or 10 have proved in foal. The property of the late Henry K. Schmidt. Must be sold. For further particulars apply to GEO. MOORE or J. H. ENGLE, V. S., Waterloo, Ont.

For IMPOR'ED PERCHERON STALLION five years old; first-class in every way. Apply to
Sale Box 85, Thameville, Ont.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. and Sta.

Gombul tells a story of an English woman of high station who bewailed to a friend the loss by death of a somewhat ill-fated but extremely wealthy neighbor, who had been very liberal in his help to her country charities. "Mr. X is dead," said she. "He was so good and kind and helpful to me in all sorts of ways. He was so vulgar, poor, dear fellow, we could not know him in London, but we shall meet in heaven."

The Most Complete Line of Iron Stable Fittings in Canada.

ALSO A COMPLETE LINE OF STEWART HORSE-CLIPPING AND SHEEP-SHEARING MACHINES.



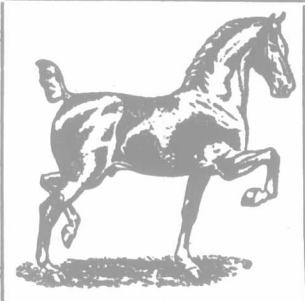
Knives Sharpened and Returned Promptly.

Before fitting up your stable write us for information and prices. Our knowledge, gained by years of experience, is at your disposal.

The Tisdale Iron Stable Fittings Co., Limited,
19 Temperance Street, Toronto.
Send for Stable Fitting Catalogue.

THE UNION STOCK-YARDS COMPANY, Ltd. HORSE EXCHANGE
KEELE ST., - - TORONTO JUNCTION

Auction Sales of Horses, Carriages and Harness every Monday and Wednesday. Private Sales every day.



Come and see this new Horse Exchange, it will interest you, also the Quarter-mile Track for showing and exercising

The Directors of the above Company have not spared anything in the building of this new Horse Exchange. The stables, which are built of cement and brick, will stall between 800 and 900 head of horses and are considered by judges, who have seen them, to be the most sanitary they have yet seen.

We have sold on an average of 100 horses per week since the opening of this great horse market, and now that the success of the horse business is assured, we are in a position to handle Breeders' Stock Sales of all kinds, Cattle, Sheep, and Hogs.

Breeders will find that advertising on a central place like Toronto will be advantageous in many ways, as this is unquestionably the most complete market of its kind in America for both buyer and seller.

We have our own railway chutes, which are the finest, and can load any number of cars at once on both G.T.R. and C.P.R. No charge for loading or unloading stock of any kind.

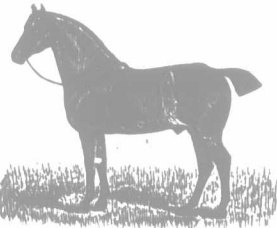
Correspondence solicited as to terms, etc.

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

IMPORTED CLYDESDALES AND HACKNEYS



Stallions and mares, both breeds, representing the best blood of England and Scotland, combining size, quality and faultless action. Stallions are all guaranteed sure foal-getters, or replaced by one of equal value. All will be sold on the long-time payment plan. Stallions insured against risks of all kinds. If in need of something choice of the above breeds, write or wire for full particulars and catalogues.



DUGALD ROSS, Streetsville, Ontario.

Graham - Renfrew Co.'s CLYDESDALES and HACKNEYS.

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. Yonge street cars pass the door every hour. Phone North 4483.

GRAHAM-RENFREW CO., LTD., Bedford Park, Ont.

CLYDESDALE STALLIONS

Our new importation has just landed. An exceedingly good lot. Some extra big fellows. They may be seen at our stables, Fraser House, London. Call and see them, or write

MESSRS. DALGETY BROS., GLENCOE, ONT.

25 Imported Clydesdale Stallions and Fillies 25

Two Clyde stallions, 1 Hackney stallion, over 20 Clyde mares and fillies, from 1 to 5 years of age. Many high-class show animals among this lot. Many winners in Scotland among them. They have size, quality, style, action and breeding. Come and see them. **Geo. A. Brodie, Bethesda P. O., Stouffville and Gormley Stations.**

IMPORTED CLYDESDALES! 9 stallions, 1 to 5 years of age; 10 fillies, 1 to 3 years of age, several of them in foal; 1 two-year-old Hackney stallion; 1 two-year-old Shire stallion; 3 Percheron stallions, 3 years old. All are selected animals, bred in the purple. Will be sold cheap and on terms to suit. **T. D. Elliott, Bolton, Ont.** Phone.

The European Grain Trade.

Notwithstanding the great increase in American flour exports to the Far East, the United Kingdom alone requires far larger quantities of American flour than all Asia. In the grain trade, the pre-eminence of Europe as an outlet for our surplus production is more marked, between 80 and 90 per cent. of the total wheat and corn exports from the United States being destined to that continent, while the United Kingdom alone buys annually about one-third of our entire shipments abroad of those grains.

"The European Grain Trade" is the latest subject investigated by the Bureau of Statistics of the United States Department of Agriculture, a bulletin under that title, prepared by Frank R. Rutter, while Assistant Chief of the Division of Foreign Markets, having just appeared. This bulletin, giving comprehensive statistics of the European imports and exports of grain and flour for a long period of years, compiled from the official statistics of the various countries, supplements a recent bulletin covering the grain production of the United Kingdom and the various continental countries.

While the United Kingdom, of course, holds first rank as a market for foreign grain, the rapid increase in the requirements of Germany is perhaps the most striking feature disclosed by the trade statistics. Within the last twenty years Germany has risen from sixth to second place among the wheat-importing countries of Europe. At the present time Germany has to depend upon importation for more than one-third of its total wheat supply.

At the same time that Western Europe is providing a market for surplus grain, Eastern Europe is increasing the force of its competition. Russia, while continuing to grow enough rye for its own consumption, is constantly increasing the wheat acreage on its larger estates, and the consequent surplus available for exportation in years of normal harvest. During the first five years of this century the average wheat exports from Russia reached 141,000,000 bushels, showing a gain of 40,000,000 bushels as compared with the exports twenty years earlier.

Hungary, the second largest exporter of wheat in Europe, ships its surplus almost entirely to Austria, so that Hungarian wheat enters into strictly foreign trade to a very limited extent, and then almost solely in the form of flour, the product of the Hungarian mills being of an exceptionally high grade.

Roumania ranks third among the surplus-producing countries of Europe, nearly one-half of its total crop being shipped abroad. There, as in Russia, the increase in wheat acreage is taking place almost entirely on the large estates, while the smaller growers content themselves with raising corn, the great mainstay of the peasants in the Danubian countries.

To all three of the countries named, 1907 brought poor wheat crops, and thereby suspended for the present the competition that American exporters meet from Eastern Europe.

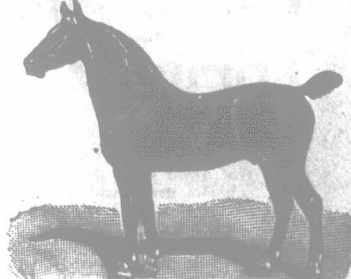
This factor has undoubtedly had much influence in driving wheat prices to a point much higher than has been reached since 1898, following the disastrous crop failures of 1897; and to find another year of equally high prices it is necessary to go back to 1891.

A comparison of the grain prices in various European countries discloses some interesting points of contrast. Prices are lowest in Russia, where wheat is primarily an exportable commodity and only in a minor degree an article of consumption. Little higher prices, however, prevail in countries like England, Belgium, and the Netherlands, which depend on imported grain for the larger part of their supplies.

At the other extreme come Germany and France; but France, this year, after an exceptionally bountiful harvest, promises to be self-sufficing, and at Paris the price of wheat at the beginning of 1908 was 25 cents a bushel lower than the price at Berlin.

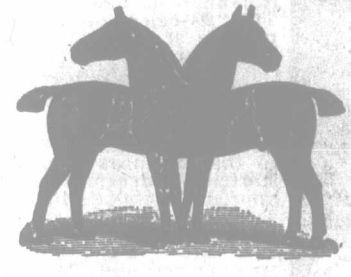
In the dual monarchy of Austria-Hungary, there is at times, when the excess of Hungary is insufficient to supply the deficiency of Austria, a price level almost, if not quite, equal to that in Germany, while at other times, when the crops are unusually good, the Hungarian prices exceed but little those of the United Kingdom.

Warranted to Give Satisfaction. Gombault's Caustic Balsam



Has Imitators But No Competitors.
A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Kingbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.
As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam 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, testimonials, etc. Address **The Lawrence-Williams Co., Toronto, Ont.**

THE LAFAYETTE STOCK FARM
J. CROUCH & SON, PROPS.
LaFayette, Ind.



Largest importers in America of Percheron, Belgian and German Coach stallions and mares. The three popular breeds. The States have about discarded all breeds of draft horses except the Percheron and Belgian. They are low down, blocky shaped, clean legs, cuppy foot and tough, and can go over rocky roads without shoes; are close made, long ribbed, and live on half the food that the leggy, shorty ribbed, big Roman nose kind do. They mature at three years old. Long time to responsible buyers. Guarantee the best. Prices from \$700 up to \$2,500.

You Can't Cut Out A ROG SPAVIN or TROUBROUGH PIN, but ABSORBINE

will clean them off, and you work the horse same time. Does not blister or remove the hair. Will tell you more if you write. \$2.00 per bottle, delivered. Book 4-C free.
ABSORBINE, JR., for manking, \$1.00 bottle. Cures Varicose Veins, Varicocele, Hydrocele, Ruptured Muscles or Ligaments, Enlarged Glands, Allays Pain. Genuine mfd. only
G-4-JOHN, P.O.F., 73 Monmouth St., Springfield, Mass
Canadian Agents: LYMAN BOND & CO., Montreal

HORSE ACTION DEVELOPERS



WRITE FOR PARTICULARS.
G. E. GIBSON, OAKHAM, ENGLAND.

NOTHING BUT THE BEST
New importation of Clydesdales and Hackney Stallions. For sale more Old Country premium and H. and A. Society winners than any other importer. Such horses as **Acme, Memories Marquis, Rozelle, Ardethan Goldsmith, King's Seal, Baron's Charm, Baron's Carrick, Abbey Fashion, Medallion**, and many others equally good. Thirty-six in all. Prices reasonable.
OSWALD SORBY, GUELPH P. O., ONT.

MR. A. I. HICKMAN,

Court Lodge, Egerton, Kent, England,
exports pedigree live stock of every description to all parts of the world. Exported during 1907 more Shetland ponies, more Romney Marsh sheep, and more champion Oxford Downs than any other breeder or exporter, besides large numbers of other breeds of horses, ponies, cattle, sheep and pigs. Correspondence invited. Highest references given.

It Makes ALL FOWL Thrive

This tells of the food that makes little chicks grow quick—keeps them growing, sturdy, vigorous, gets them to the profit stage sooner, yet costs too little to figure on. Prevents disease in all fowl, and saves a hundred times its cost.

Not a Mere Medicine but a Real Food

Greig's Poultry Food is a perfect compound of just those roots, barks and herbs—without "dope" or poisons—that best regulate the bowels of fowl, tone their digestive organ, foster healthy, rapid growth, and practically insure them against the ills they'd otherwise endure—ills that COST you.

It Makes Hens Lay Better

A teaspoonful or so in the morning mash will develop and sustain egg-laying in hens, and will result in larger eggs and a lot more of them. The "300-eggs-a-year" hen is possible if you feed this Food properly.

Nothing so Good for Ducks

Feed Greig's Poultry Food to the ducklings from the start, use ordinary sense, and your duck-profits will soon show you that you cannot afford to lack Greig's on your place. It saves, every way you look at it—it DOES make fowl thrive.

It Gets Turkeys Started Right

Feed Greig's to the turkey-poults, and you'll be wondering why folks think turkeys are so hard to raise. Greig's takes most of the risk and loss out of turkey raising, and gets the birds into market shape without extra feed. Cheap, too. 4 1/2 lb. package, 50c. 13 lb. pack, \$1.25. Greig's deliver it anywhere in Canada if you send your dealer's name. GUARANTEED TO DO ALL WE CLAIM—or money back. Try it. Send for FREE poultry book.

The Robt. Greig Co., Limited
161 Pearl Street
TORONTO

GREIG'S
IMPROVED
Poultry Food

You cannot possibly have a better Cocoa than

EPPS'S

A delicious drink and a sustaining food. Fragrant, nutritious and economical. This excellent Cocoa maintains the system in robust health, and enables it to resist winter's extreme cold.

COCOA

Sold by Grocers and Storekeepers in 1/2-lb. and 1-lb. Tins.

QUESTIONS AND ANSWERS.

Miscellaneous.

REFEREE IN JUDGING.

If a dispute arises at a show between two judges over a horse, what judge would be called to decide the matter?
SUBSCRIBER.

Ans.—If a reserve or referee judge had been appointed by the Fair Association before the show, he is called in, if present. If not, the directors, or the committee, or director in charge of the department should select the referee or third man to break the tie between the two horses in dispute.

BEQUEST OF LIFE INSURANCE

As I am about to, or want to, make my will, and have \$2,000 on my life, the policy in favor of my wife, can I dispose of that insurance same as any of my real and personal property? Not that I want to cut her out of my will, only want to know my position in the matter.

BOBS.

Ans.—No. You can deal with the policy in and by the proposed will but to a limited extent only. See The Ontario Insurance Act (Revised Statutes of Ontario, 1897; chap. 203, and more particularly Sec. 160).

ABORTING MARE.

I have a mare, coming three years old, which I bred at two years, and she carried her foal nine months; dropped it on the first day of March. Has been idle most all the winter, and in the yard nearly every day, and drove a few times. Fed grain and bran twice daily, with an occasional mangel two or three times a week; salt at will. Tied in a comfortable stable. Got no occasion as I know of for dropping her foal. Will there be any danger of a recurrence in case I breed her again? As she is a pure-bred Clydesdale, and of good size and quality, would like to keep her breeding. She is in good condition and healthy. S. L.

Ans.—With judicious management during pregnancy, we should say there will be little danger of a recurrence of the mishap if she is bred again.

Veterinary.

UNTHRIFTY MARE.

Four-year-old mare had distemper last fall, and has not done well since. Her hair is long and dull. She has a fair appetite, but is dry. When driven, she purges, and her urine is thick and yellowish in color. She is fed on hay, straw and a few oats and chopped corn. J. C. S.

Ans.—Give her a purgative of 1 1/2 pints raw linseed oil. Feed bran only for twelve hours before, and twenty-four hours after giving the oil. Then take three ounces each of sulphate of iron, gentian, ginger, and nux vomica, and six ounces nitrate of potassium. Mix, and make into twenty-four powders. Give her a powder three times daily. Repeat the prescription as often as necessary. Feed on good hay, and give five quarts rolled oats three times daily, and, in addition, give a feed of dampened bran, with a cupful of linseed meal twice weekly. Give regular exercise or light work. V.

FATAL PARALYSIS.

Cows are fed on straw twice daily, and hay, with a little grain, once daily; get salt regularly, and water inside when the weather is cold. One took sick suddenly, and was unable to rise, or stand when lifted. She refused to eat. Appeared to suffer acutely, and died. A post-mortem revealed nothing but a dark spot beside the right kidney. Now another cow appears to be the same way. P. C.

Ans.—This is paralysis, probably caused by stomach trouble. Purge with two pounds Epsom salts, half an ounce gamboge and one ounce ginger. If this does not cause purgation in thirty hours, give one and one-half pints raw linseed oil, and repeat the oil every twelve hours until purgation commences. Give, in addition, two drams nux vomica three times daily. If she will not eat, drench her with boiled flaxseed. Give all your other cattle a few pulped roots daily; or, if you have no roots, give a feed of bran with a cupful of linseed meal once daily. V.

WOUND.

Mare got badly cut below the hock with barbed wire. I cannot keep proud flesh down, and the wound will not heal. Would you advise blistering with — ? J. B.

Ans.—Apply a little butter of antimony with a feather once daily until proud flesh disappears. Dress, three times daily, with equal parts boracic acid and iodoform dusted on dry until the wound is healed. Then the enlargement remaining can be reduced to some extent by repeatedly blistering in the ordinary manner so often described in these columns. V.

MISCELLANEOUS.

1. Is oil cake good for work horses? If so, in what quantities?
2. Does it pay to have oats crushed for horses, and, if so, should they be cleaned before crushing, as there is dirt and black seeds in them?
3. How should bran be fed to horses? Is it best to feed some in each feed, or in a mash, once or twice weekly?
4. Horse got cut last fall, and the hair has not grown.
5. Horse is swollen from knee to shoulder, but is not lame. There is a hardness about the knee. H. S.

Ans.—1. A cupful of ground oil cake in oats, two or three times weekly, aids digestion.
2. Yes; of course, all dirt should be removed before crushing.
3. It makes little difference. I favor a feed of dampened bran twice weekly. Others feed a little regularly in whole oats.
4. Apply a little sweet oil regularly. It is not probable the hair will grow to cover the wound.
5. Hand-rub frequently, and then rub well with strong camphorated liniment. V.

RESULT OF OPEN JOINT.

Colt got cut on fore fetlock. The joint oil escaped for a month. Then the wound healed, but there is a hard enlargement, and he is still lame. I have blistered several times, and am now applying iodine. J. H. W.

Ans.—Recoveries from open joint are rare, and in many cases there is a union of the bones of the joint and a bony enlargement. When a union (called ankylosis) takes place, a thorough recovery cannot result. I am afraid this is the case with your colt, and while he does not suffer pain, will always be stiff. Repeated blistering is the best treatment. Take two drams each of biniodide of mercury and cantharides, and mix with two ounce vaseline. Clip the hair off. Tie so that he cannot bite the parts. Rub well with the blister daily for two days. On the third day wash off and apply sweet oil. Let his head down now, and oil every day. As soon as the scale comes off, tie up and blister again, and, after this, blister once every four weeks, for a few months. If you see an improvement after a few blisters, keep on. If not, treatment will be useless. V.

FATAL PARALYSIS.

1. Mare was all right at night, and the following morning she was lying and could not rise. We tried to help her, but she would not make an effort. She lived for three days, when we destroyed her. This was in November.
2. Two weeks ago pregnant mare was all right at night, and next morning was down and unable to rise, and acted the same as No. 1. What was the matter; what the cause, and is it contagious? Is there any cure? S. McL.

Ans.—The mares died from paralysis. It is hard to say what was the cause. It was probably caused by stomachic trouble. Feeding food of poor quality, or drinking water of poor quality, is liable to cause it; but it often appears without appreciable cause. It is not contagious. It is possible a veterinarian might have effected a cure. He would probably have purged them, and followed up with two-dram doses of nux vomica, and it is also probable he would have raised them with slings. It is quite probable they would have been able to stand with a little support, but in some cases a patient is not, when, of course, slings are of no use. No definite treatment can be given, as each case needs to be treated according to symptoms. V.

BLATCHFORD'S CALF MEAL

Our BOOKLET plainly tells the story of Blatchford's Calf Meal, with convincing testimonials from some of the 20,000 progressive farmers who have had excellent success with this perfect milk substitute. It costs about half as much as milk. It prevents scouring. It is the oldest and best. It is free from mill feed. It is cooked. The Booklet is FREE. Write for it.

J. A. Simmers, Toronto, Ont.
Taylor Bros., Ltd., Carleton Place, Ont.
J. H. Byers, Stratford, Ont.

Brown Swiss Cattle

FRENCH-CANADIAN HORSES.
We are offering for sale cattle of both sexes and almost any age; the greatest dual-purpose breed alive. Horses of all ages. Stallions, mares and fillies. The best stud in Quebec. Write us for prices. We represent exactly as the animal is.
O. E. STANDISH, Ayer's Cliff P. O.,
Treebarthe Farm, Quebec.

ABERDEEN - ANGUS

For sale, 80 head to pick from, males or females by imported sire. Drumbo station.

WALTER HALL, Washington, Ontario.

Hyde Park Herefords
Choice young heifers, and cows with calves at foot and bred again, for sale.

Thomas Skippon, Hyde Park, Ont.

Aberdeen - SUFFOLD DOWN SHEEP

Angus Cattle If you require either of these breeds, write:

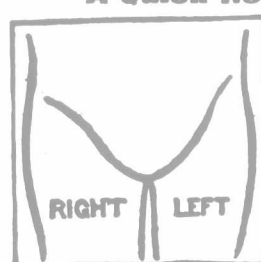
James Bowman, Elm Park, Guelph

Herefords

We have some choice females for sale—all ages—of the right sort; also a few young bulls fit for service. Correspond with us. We can please you. J. A. LOVERING, Coldwater P. O. and Station.

FREE to the RUPTURED

A Quick New Cure



I have made new and important discoveries in the cure of Rupture and for the next 80 days I will give every ruptured person who follows these directions a chance to try this remarkable Home Cure, FREE.

Mark on the diagram the location of the rupture. Answer the questions and mail this to DR. W. S. RICE, 865 Main Street, Adams, N. Y.

Age..... Time ruptured.....

Name.....

Address.....

Does rupture pain?..... Do you wear a Truss?.....

MONEY IN CANARIES

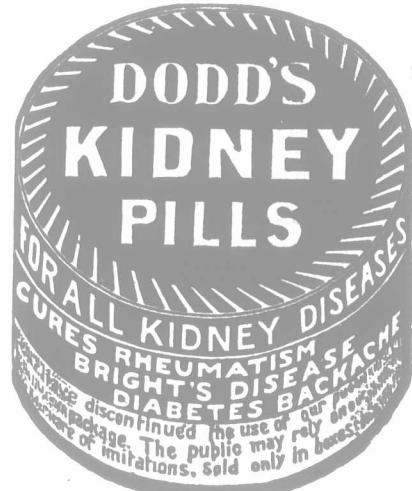
More profitable than poultry. Experience unnecessary. We give advice free. Our new 50c book, "Money in Canaries," tells all about it. With book we send free, if you name this paper, a 10c packet BIRD BREAD. Also, "How to Kill Birds of Lice," and "Bird Magazine." Send 5c in stamps or coin. Refunded if you buy birds from us. Birds shipped anywhere any time. Write us before buying. Address:

COTTAM BIRD SEED

38 BATHURST ST., London, Ont.

PERTH ABERDEEN-ANGUS SALE.

The outbreak of foot-and-mouth disease in a couple of herds of dairy cattle near Edinburgh affected the demand at the Spring Aberdeen-Angus Show and Sale, at Perth, on Feb. 18th, when 253 bulls were sold for an average of £24 11s. 6d., and 109 females averaged about the same price. Two bulls from the Ballindalloch herd of Sir John Macpherson Grant, sold for 170 and 180 guineas, respectively, and the average for the eight bulls from this herd was over 100 guineas.



GOSSIP.

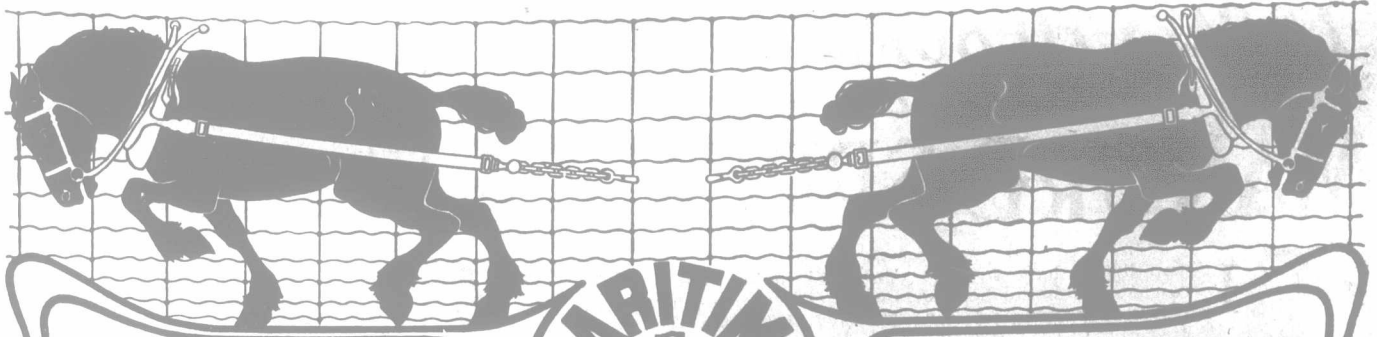
Mr. A. I. Hickman, Court Lodge, Egerton, Kent, England, whose portrait appears on another page in this issue, and whose advertisement also runs in this paper, writes us that he is a breeder and exhibitor of pedigreed stock, that he has frequently been appointed a judge at important shows in England, and has made selections for and shipments of stock to many different countries, giving entire satisfaction to those entrusting commissions to him.

At the London (England) Shire Show last week the championships excited a deal of interest. Mr. James Gould's two-year-old colt, Lymm Grey, won the junior stallion cup, with Mr. Max Michaelis' three-year-old, King of Tandridge, reserve. The aged cup fell to Earl Egerton's Tatton Dray King, with Lord Rothschild's Childwick Champion reserve, and the society's 100 gs. cup, for the best stallion in the show, also went to Tatton Dray King, Childwick Champion being first reserve, and Lymm Grey second reserve.

Messrs. J. Watt & Son, Salem, Ont., write: "We have recently sold to Mr. I. Groff, Alma, Ont., for The Woods Investment Company, South Omaha, Nebraska, a very good roan Shorthorn bull, of the Marr Red or Roan Lady family, and sired by Heatherman, the bull that topped their South Omaha sale last fall. This calf is sure to develop into an extra good bull of the right kind. We have just one bull left now fit for service, and he is the pick of all our last season's bulls; he is white; calved January 10th, 1906, and he is going to make a show bull, and a hard one to beat if he falls into good hands. He will be sold cheap, being the last one we have. The heifers and young cows we are offering are a very good lot. Most of them are in calf to our stock bull, Imp. Pride of Scotland, or have calves at foot. We have half a dozen calves by Imp. Pride of Scotland, and they are a very good lot, and we feel confident that he will leave his mark in our herd as a stock bull, as he has already proved himself to be a sire of no mean order."

FAIRVIEW HOLSTEINS.

In our advertising columns will be seen the advertisement of Mr. Thos. Hartley, Downsview P. O., Ont. His farm, Fairview, lies in York County, 2 1/2 miles east of Weston Station, on the G. T. R. and C. P. R. and Toronto-Junction-Weston trolley line. Mr. Hartley is somewhat extensively engaged in the breeding of Holstein cattle, of which there are now in his splendid stables about 50 head, a large number of which are in the Record of Merit, with official records of, for two-year-old heifers, 9 to 13 1/2 lbs. butter in seven days, and from 1,000 to 1,300 lbs. of milk in one month; four-year-olds, from 16 to 17 lbs. of butter in seven days, and 1,500 lbs. milk in one month; for aged cows, 50 to 70 lbs. of milk a day, and 18.17 lbs. butter in seven days. And when it is remembered that a number of these records were made from three to four months after freshening, it shows that the Fairview herd ranks well up among the best in the country. In breeding, the herd is rich in the blood of the Pietertje De Kol, Faforit and Posch families, representatives of which hold many world's butter and show-ring records. Fully half of those now in milk are in the Record of Merit, and others will be tested as fast as they freshen. Every stock bull that has ever been in use in the herd is in the Record of Merit, a fact that greatly enhances their value. The present stock bull is the well-known champion winner of five first prizes and three championships at Toronto, Cornelius Posch, by the great bull, Sir Abbekerk Posch, a full brother to the world's two-year-old champion producer, Alta Posch; dam Cornelia Schulling, two-year-old butter record of 13 lbs. in seven days. For sale are about a dozen cows and heifers. At least the herd is that much stronger than Mr. Hartley cares to keep, and anything in the herd can be bought with the money, also a number of bull calves by the stock bull, and out of R. of M. dams. Write Mr. Hartley, and make known your wants, as practically every animal in the herd has official backing on both sides.



THE LOCK CAN'T SLIP

The illustration demonstrates the phenomenal gripping-strength of our lock. Under the most unusual strain it never gives. It is known as the lock that can't slip; the lock that un-failingly holds the wires in their correct position.

Our Free Catalogue will tell you more about our can't-slip lock, and about the superior English high-carbon, hard-drawn steel wire from which Maritime Wire Fence is made. Address the card to

New Brunswick Wire Fence Co., Limited, Moncton, New Brunswick

The Celebrated DeLoach Mill

Advertisement for DeLoach Mill featuring an illustration of the mill and text: "Saw Your Own Lumber We Set the Pace - Others do the Best They Can. The World's Standard for 20 Years. For lumber is lumber nowadays, and you can do it better than the other fellow, with our help. A 15-year-old boy can operate successfully. Two hands cut 5,000 feet per day. 15,000 mills in use the world over. Variable Feed, Friction Set Works, Automatic Steel Trippler Dogs and Diamond Track produce results impossible with other mills. Send for catalog of Saw Mills up to 20 H. P. Steam Engines and Boilers, Gasoline Engines, Portable Corn and Feed Mills, Planers, Shingle Mills, Wood Saws and Water Wheels. Prompt shipment and we pay the freight. DeLOACH MILL MFG. CO., Box 351, BRIDGEPORT, ALA."

Hawthorn Herd of Deep-milking SHORTHORNS

6 YOUNG BULLS, by Aberdeen Hero, Imp. =28840-. Also females all ages. Wm. Grainger & Son, LONDESBORO P. O.

SUNNYSIDE STOCK FARM

Bulls in service: Queenston Archer =48998-, Trout Creek Stamp =67660-. A number of first-class young bulls, red and roan, and a few cows and heifers, for sale. Prices right. JAMES GIBB, Brookdale, Ont.

Salem Herd of Shorthorns!

J. A. WATT, SALEM P. O. I will take a very limited number of high-class cows for service to Jill Victor. I can supply any number of Shorthorns of either sex, or willingly help buyers in making selections elsewhere. Write to G. T. R. and C. P. R., 13 miles north of Guelph. Long-distance phone.

T. DOUGLAS & SONS

STRATHROY, ONT. Breeders of Shorthorns and Clydesdales. 15 bulls, 60 cows and heifers, 1 imp. stallion, imp. and home-bred fillies. Write us what you want or come and see our stock. Farm 1 mile north of town.

2 Very Fine Young Bulls

ONE RED AND ONE ROAN 10 and 16 months old From imported sires and dams. Both will make winners. W. J. SHEAN & SON, Box 856, OWEN SOUND.

TWO IMPORTED BULLS

Direct from Aberdeenshire, Scotland, of excellent quality, color and breeding, two from imp. sire and dam, and others sired by Joy of Morning (Imp.) =33070-. Prices in Shorthorns and Yorkshires will interest intending purchasers. GEO. D. FLEICHER, Binkham P. O., Ont. Erin Stn., C. P. R.

GREENGILL HERD OF HIGH-CLASS SHORTHORNS.

We offer for sale choice young bulls from 6 to 18 months old, sired by imp. Lord Roseberry, also cows and heifers, with calf at foot or bred, either imp. or Canadian-bred. R. MITCHELL & SONS, Nelson P. O., Ont., Burlington Jct. Sta.

SCOTCH SHORTHORNS!

We now offer four heifer calves 10 and 11 months old. All reds. Bred from imp. sire and dam. Will be sold right G. HANLIN & SONS, Wyebridge P. O., Wyevale Sta.

YOUNG SHORTHORN BULLS!

Am now offering 2 grand ones from Scottish Peer (imp.). Will make show animals. Also Leicester sheep. A number of young breeding cows to sell. JAS. SNELL, Ginter, Ont.

Queenston Heights Shorthorns

Young bulls from imported and home-bred Scotch cows, and got by such noted bulls as Derby (imp.), Spicy Broadhooks (imp.) and Whitehall Bamsden. Priced for quick sale. HUDSON USHER, Queenston, Ont. Farm three miles north of Niagara Falls.

PLEASANT VALLEY SHORTHORNS

For sale: 3 young bulls by Old Lancaster Imp. from Imp. dams, including Lancaster Victor, first prize at Dom at Sherbrooke, second at C. N. E., Toronto. Correspondence solicited. Inspection invited. Geo. Amos & Son, Moffat Stn. & P. O. C. P. R. Farm 11 miles east of City of Guelph.

Maple Lodge Stock Farm 1907. Winners at the leading shows have been sired by bulls bred here. We can sell you a good bull to head your herd of SHORTHORNS, or for use on your good grade cows. The bull catalogue explains the breeding. Write for it. John Dryden & Son, Brooklin, Ont. Stations: Brooklin, G. T. R.; Myrtle, C. P. R. Long-distance telephone.

1904 Maple Lodge Stock Farm 1907

An exceptionally choice lot of heifers and young bulls for sale now. Best milking strains. A. W. Smith, Maple Lodge P. O., Ont.

Valley Home Shorthorns AND BERKSHIRES.

Our herd numbers sixty-five head. We are prepared to give bargains to suit all who wish to buy from one animal up to a carload of females, and 19 bulls from 9 to 18 months old. Also 56 Berkshires of prolific strains. S. J. PEARSON, SON & CO., Meadowdale, Ont. Stations: Meadowdale, C. P. R.; Brampton, G. T. R.

10 IMPORTED BULLS 10

Recently arrived from Scotland in good condition. They are a superior lot. Selected for herd-heads. We also have a number of Canadian-bred bulls of excellent quality, and representing the choicest breeding. Females suitable for show or breeding purposes.

W. G. PETTIT & SONS, FREEMAN, ONTARIO.

Burlington Jct. Sta., G. T. R. Bell telephone at each farm.

Maitland Bank Shorthorns

Five bulls, 12 to 16 months; six bulls, 9 to 12 months, got by Broadhooks Prince (imp.) =55002-, and some of them from imp. cows; also cows and heifers, milking sort and right breeding. Lowest prices for quick sale. Come and see them, or write. DAVID MILNE, Ethel, Ont.

MAPLE GROVE SHORTHORNS

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

IT PAYS TO BORROW MONEY TO BUY A MANURE SPREADER

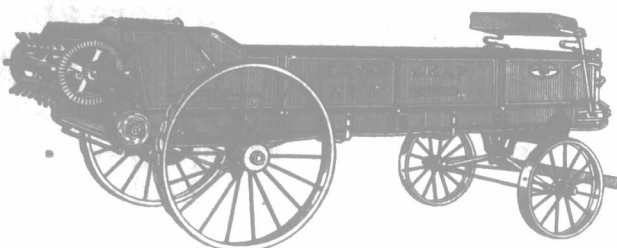
IF you do not have to borrow, so much the better. But in any event have a spreader of your own this year. The increase in the first crop through the use of your spreader will more than pay the principal and interest. It will cut down the labor of manure spreading. It will make the work agreeable. There will be no waste of manure. You will have a more fertile soil for future crops.

A manure spreader should be considered as a permanent investment, not as a running expense.

For the only way you can get all the value out of the farm manure every year is to use a spreader. There is absolutely no comparison between results produced by hand spreading and machine spreading.

The Cloverleaf Endless Apron Spreader
The Corn King Return Apron Spreader

CANADIAN BRANCHES: Calgary, Hamilton, London, Montreal, Ottawa, Regina, St. John, Winnipeg
INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.
(Incorporated)



You will make no mistake in buying either one of these right working, durable I. H. C. spreaders. I. H. C. spreaders are not built excessively heavy, but they have the strength required by such machines. The draft is as light as possible in any spreader.

The machines differ in certain features, but each have good strong broad tires, simple and strong driving parts, are easily and conveniently controlled, and do first-class work with any kind of manure.

Any I. H. C. local agent will supply catalogs and explain the distinguishing features of each machine, or show you a machine at work so that you can choose wisely.

If you prefer, write direct to our branch house nearest you for any information desired.

GOSSIP.

Mr. H. S. McDiarmid, Fingal, Ont., breeder of Yorkshire swine, whose advertisement runs in this paper, writes: "Among our more recent sales is a young boar, Maple Grove Alfonso 2nd, to Mr. C. C. Wilson, Hampestone, Ont. This boar is one of a litter imported in dam last summer. Mr. Wilson, who is a breeder of Yorkshires, wrote us some time ago asking price of a choice young boar. We priced him this one, and shipped him on approval, giving the privilege of returning him if not satisfactory. On arrival he wrote: 'Boar arrived in good condition, and I am well pleased with him. I am going to take good care of him, because I am quite proud of him. He should make a strong showing at Toronto. I did not see any at Toronto last fall that I liked better, and, in fact, none that would suit me so well.' We have a litter brother that we have reserved as a stock boar, and, needless to say, he is the choice of the pair. We have also in the herd a young boar of beautiful type, great length and strong, large bone, a son of Messrs. Platt's boar, Chester. These two, along with S. H. Rodger 4th -23667-, make a trio that are hard to equal. The female side of the herd has also been greatly strengthened by the addition of four young imported-in-dam sows, litter sisters to Mr. Wilson's boar. We are pricing pigs of all ages, and our customers are invariably well satisfied. We ship on approval, so that the buyer takes very little risk. We ask everyone to come and see for themselves."

ROYAL REVIEW DEAD.

Mr. William Renwick's last year's Highland and Agricultural Society champion Clydesdale stallion, Royal Review (13712), died last month, after a short illness. He was foaled in July, 1905, and was bred by Mr. John Leckie, Inchwood, Milton-of-Campsie. He was got by Hiawatha, from the Queenieburn Sir Everard mare, and was first in his class, as well as champion stallion, at the H. and A. S. Show, Edinburgh, last year. He was there hired by the enterprising Strathmore Horse-breeding Society, but his career has been cut short.

Mr. R. W. Walker, Utica, Ont., breeder of Holstein cattle, whose farm is in South Ontario, near Manchester Station, on the Whitby-to-Port Perry branch of the G. T. R., writes: "I have been receiving a lot of enquiries for young stock, and have recently made sales of five young bulls and one heifer. The enquiries all mention having seen my advertisement in 'The Farmer's Advocate.' My stock are doing fairly well. We are having a heavy, cold winter. Feed is scarce and dear to buy, but the dairy business, present and prospective, is O. K., and Holsteins are trumps in a milking contest every time. Wishing 'The Farmer's Advocate' every success."

DON JERSEY HERD.

The Don Dairy Farm, the property of D. Duncan & Sons, Don P. O., Ont., lies in the County and Township of York. Duncan Station, on the C. N. R., is only about one-quarter of a mile from the house. The farm proper contains 350 acres in first-class state of cultivation. The buildings, which are modern, are beautifully situated on the bank of the Don River, thus ensuring perfect drainage. The stables are well lighted and ventilated, not a drop of moisture being perceptible on the walls or ceiling. The water supply is a natural one, being brought into the stables by gravitation from natural springs. The floors are cement, thus ensuring cleanliness. The arrangement of the stables is an ideal one for the comfort of the animals and ease of feeding and cleaning, the whole making one of the most complete and best equipped dairy farms in Ontario. Just now there are on hand something over 100 head of typical Jerseys, the high-class character of which is too well-known to need any praise in these columns. For years one of the very best herds in Canada; their splendid show record at such leading exhibitions at Toronto, London, Ottawa and Sherbrooke, Que., has indelibly stamped them as second to none. At the head of the herd is that exceedingly richly-bred bull, Fontaine's Boyle, a bull carrying 62 per cent. of the blood of the great Golden Lad; sired by Imp. Golden Fern's Lad, whose get sold for higher prices at Mr. Cooper's sale than was ever before paid for the get of any bull in America, and whose get are said to have also won more prizes in America and England than the get of any other bull living or dead. His dam, Nunthorpe's Fontaine (imp.), sold for \$1,035, and her two-year-old daughter, by Flying Fox, sold for \$1,400; while her dam, Fontaine 9th, gave 9,000 lbs. of milk in one year, and made 2 lbs. 10 ozs. butter in twenty-four hours. The Fontaines are recognized as the greatest show and producing strain of Jerseys living. Second in service is Lady Belvoir's Chief, winner of third at Toronto, first at Sherbrooke and Ottawa last fall. Records of the milk yield of the herd shows, for two-year-olds, from 30 to 38 lbs. a day; for three-year-olds, from 35 to 40; for four-year-olds, from 40 to 48 lbs. a day. For the first time, Mr. Duncan is now offering for sale a number of heifers, some in milk, others in calf, and younger ones, the get of Golden Lad of Thorncliffe and Lady Belvoir's Chief, and bred to Fontaine's Boyle, among which are a number of Toronto and other winners, also several yearling bulls by the above sires, and out of such grand cows as Marjoram of Markham, a 40-lb. cow and a Toronto winner; Regenetta Pet of Don 2nd, a 40-lb. cow, and a first-prize winner, etc. One of the yearling bulls is Art's Champion Fox, by Fancy's Flying Fox. He was first at Toronto and Ottawa. Write Mr. Duncan to Don P. O., or call and see his herd.

SPRINGBROOK SHORTHORNS.

It is probably safe to say that no other one herd of Shorthorns that ever has been, or is now in existence, has done so much to make Canadian Shorthorns famous throughout the length and breadth of the American continent, as the Springbrook herd, the property of J. & W. Russell, Richmond Hill, Ont. Their world-famed success in winning the herd prize, and also the gold medal on the great cow, Isabella, a daughter of Imp. Louisa, besides several other firsts at the Centennial at Philadelphia in 1876, and with their famous eight head at the World's Fair at Chicago in 1893, where they won eight first prizes and three out of a possible five herd prizes, proclaimed them at once the best herd in existence in America at that time. To some, not conversant with the breeding of the invincible eight, it will be interesting to know that three of them were Isabellas, one a Nonpareil, one a Rose of Autumn and two Queen Marys, the latter daughters of Imp. Roan Princess, the other being the champion bull, Lord Stanley. Besides this great record, the herd has to its credit a host of first prizes and championships won at the Canadian National at Toronto. The herd is now about 80 strong, all being of the above-named families, which the Russells think are good enough for them. And certainly families or tribes that can turn out so many high-class winners are par excellence, and just here we may say that at the present time there are several heifers in the herd that, with a little more fitting, are fit to go up against the best. All told, there are about 30 heifers. All are for sale. Most of these, as well as the eight or ten young bulls on hand, which, by the way, are for sale at easy prices, are sired by that grand old sire of show stuff, Imp. Fitz-Stephen-Forrester, a roan Flower of Aylesby-bred son of Stephen Fitz Laverdar. His predecessor in service was Imp. Royal Sovereign, by the great Emancipator; dam Donside Lily, a Claret, by Clan Alpine. The present stock bull is Imp. Lord Gordon, a Brawith Bud, by the Golden Drop bull, Golden Chief; dam Duchess of Gordon, by the Augusta bull, Cap-a-Pie; he is a grand fleshed bull of the low, thick order, and should be a profitable sire. Now is the time to choose a stock bull from this great herd, while the range of choice is a large one.

SCOTCH SHORTHORNS SHORTHORNS AND LINCOLN SHEEP.

My herd is represented by such noted Scotch families as Victoria, Orange Blossom, Duches of Gloster Strathallan Stamford and Lovely. Mostly from imported sire and dams. Write me for prices on what you want.

J. F. MITCHELL,
Burlington Jct. Sta. Burlington P. O. and Telegraph.

Two bulls, 11 and 12 months old—a Miss Ram-
den and a Beesie, both by the good breeding
bull, Proud Gift -50077- (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.

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 Sailer. Nonpareil Eclair.

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

An unsurpassed lot of yearling heifers

R. H. REID, SPRING VALLEY SHORTHORNS

Glover Lea Stock Farm,
PINE RIVER, ONT.,
BREEDER OF SHORTHORN CATTLE
Golden Cross (imp.) at head of herd.

Two young imported bulls of the very best quality
and breeding. Six Canadian-bred bulls
mostly the get of Bapton Chancellor (imp.)
prices right.

KYLE BROS., AYR, ONTARIO.

LIVINGSTON'S OIL CAKE MEAL.

OLD PROCESS

Nothing is better for fattening steers quickly and putting them on the market in prime condition than Oil Cake Meal. Thousands of Canadian and English stockmen use Livingston's, and would have no other. It is equally good for milk cows. They give more and better milk when fed Livingston's Oil Cake Meal. Also used for horses, sheep and dogs. Write for information regarding prices, etc., to

DOMINION LINSEED OIL CO., LIMITED
Montreal, Que. Baden, Ont.

SHORTHORN BULLS SHORTHORNS For Sale.

At the dispersion of the "Thistle Ha" herd in
Jan., 1905, I purchased a few of the best breeding
cows. From these cows I now have 6 extra
good young bulls for sale. For pedigrees and
other particulars apply to

JOHN MILLER,
Brougham P. O. Claremont Sta., C. P. R.

For want of stable room will sell cheap 10 heifer
calves, 12 yearling heifers, 4 two-year-old heifers
in calf, and 3 red bulls about 14 months old.
Right good ones. CLYDESDALES.—Two-
year-old mare in foal, and a good pair 4 and 5
years old. Write, or come and see them.

JAMES McARTHUR,
GOBLES, ONTARIO.

We are offering a very superior lot of SHORTHORN

HOME-BRED BULLS

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

JNO. CLANCY,
Manager.

H. CARGILL & SON, Cargill, Ont.

Burdock Blood Bitters

Turns Bad Blood into Rich Red Blood.

No other remedy possesses such perfect cleansing, healing and purifying properties.

Externally, heals Sores, Ulcers, Abscesses, and all Eruptions.

Internally, restores the Stomach, Liver, Bowels and Blood to healthy action. If your appetite is poor, your energy gone, your ambition lost, B.B.B. will restore you to the full enjoyment of happy vigorous life.

J. & W. Russell, Richmond Hill, Ont.



are now offering very cheap, for quick sale 8 yearling bulls, bred from their winning strains of world-renowned Shorthorns. Also about 30 heifers. First come, first choice. Electric Cars from Toronto pass the gate every 2 hours.

A. EDWARD MEYER, Box 378, Guelph, Ont.,

Offers for sale two young Scotch-bred bulls of good colors, both from imported sire: one from imported dam and the other from a Clementina cow; one is 11 months old, the other 8 months. They will be sold well worth the money. Write, or come and see them. Long-distance phone.

HERD BULL FOR SALE.

Lord Lieutenant (imported) No. 50060, five-year-old. All stock bull, quiet and sure. 2 bulls just over 1 year. 2 bulls just under 1 year. Half dozen choice 1 and 2 year old heifers. All from imported sires, and some from imported dams. All are from good milking dams. Visitors always welcome.

SCOTT BRU.S., Highgate P. O. and Station. M. C. Ry. and P. M. Ry.



Herd Bulls for Sale

We now offer our grand show and breeding bull, Ridgewood Marquis = 43995, good disposition and sure breeder, and Good Marquis = 69299, roan, calved Dec. 16th, 1906 a bull good enough to show anywhere. Our prices are reasonable. Write for particulars or, better, come and see. Jno. Lee & Sons.

CEDARDALE SHORTHORNS



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



Maple Grove Shorthorns.

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

Scotch Shorthorns—Young bulls and heifers from imp. stock; also herd bull, Good Morning, imp., 4 years old, all stock bull quiet and sure; also one Percheron stallion, 6 years old black, great weight and action, sure foal getter; sound, quiet, well broken to harness. Prices and terms in favor of buyer. L. K. WEBER, Hawksville, Ont.

Athelstane Shorthorns!

Three choice bulls from 9 to 12 months and heifers from 1 to 3 years; low-down, thick fleshed sort, of families: Rosewood, Butterfly Rosaling, and Coustess, and mostly sired by the Bruce Mayflower bull, Star Prince = 53900. Prices very reasonable. WM. WALDIE, Stratford, Ont. Box 324.

GREENOCK'S SHORTHORNS. — Imp. Protector at head of herd. Imp. and Canadian-bred females, Scotch and Scotch-topped. For sale: 7 bulls from 4 to 12 months of age, two of them out of imp. dams; also some choice females. Will be sold at easy prices. Write or come and see them. JOHN McFARLANE, Dutton P. O. P. M. and M. C. Railways.

QUESTIONS AND ANSWERS. Miscellaneous.

A SOLICITOR NEEDED.

A very close relation of mine died some years ago very suddenly, leaving no will, nor any paper by which the amount of his property could be ascertained, yet I have reason to believe that he had money in the bank at the time of his death. What would be the best plan to follow in order to thoroughly investigate this matter? A SUBSCRIBER, Ontario.

Ans.—Employ a solicitor.

FEED FOR BREEDING EWES—TIME TO CUT CLOVER.

1. What should be fed in addition to good pea straw to breeding ewes to have a good growth of wool and a healthy offspring?

2. Give a good recipe for condition powder for a mare in foal.

3. Mare sprains herself by turning too short on one leg in backing out of the stall, the leg swells, and she goes lame and stiff. Kindly give a remedy.

4. Which is the best milking class of cows, the Holstein or the Ayrshire?

5. When is the right time to cut clover and alfalfa, I mean in regard to blooming?

CONSTANT READER.

Ans.—1. Unthreshed pea straw, fed in moderation, makes excellent feed for breeding ewes. Good clover hay is the next best, and a feed of these alternately, one in the morning, the other in the evening, up to within a couple of weeks of lambing, when roots and a ration of oats and bran should be added.

2. Two ounces each of ferric sulphate, pulverized gentian, pulverized nuxvomica, and nitrate of soda. Mix, and give a teaspoonful night and morning in ground oats or bran.

3. It is impossible, from description, without examination, to diagnose the ailment as to location. Better consult a local veterinarian.

4. Opinions differ. There are good milkers and others not so good in both breeds. It is largely a question of individual performance. A good milker is a good one, no matter of what breed or grade.

5. Clover, commence before in full bloom, as probably before all is cut some will be too far advanced for best results. Alfalfa, when about one-tenth is in bloom; better early than later, both for quality of hay and aftergrowth.

FEE FOR SURGICAL OPERATION.

A was taken sick and sent for doctor, who came and pronounced the disease to be appendicitis. Doctor tried to check disease, but failed, and recommended A to get second doctor to perform operation, as A was not able to be removed to hospital. Second doctor came, and, with the assistance of first doctor (who furnished everything necessary for operation), performed an operation, but said he could not find the appendix, and that possibly in time another operation might be necessary. In the course of time, A gets so he can walk around, but is a poor man, without trade or education, and no way of supporting his family excepting by heavy work, which there seems little prospect of him being able to do. Now, second doctor sends in a bill for \$125. A had nurse to pay, and first doctor, whose bill has not yet been received, so second doctor had nothing but his work to charge for. A has the testimony of several parties who have had like operations in Toronto General Hospital, which only cost them \$50.

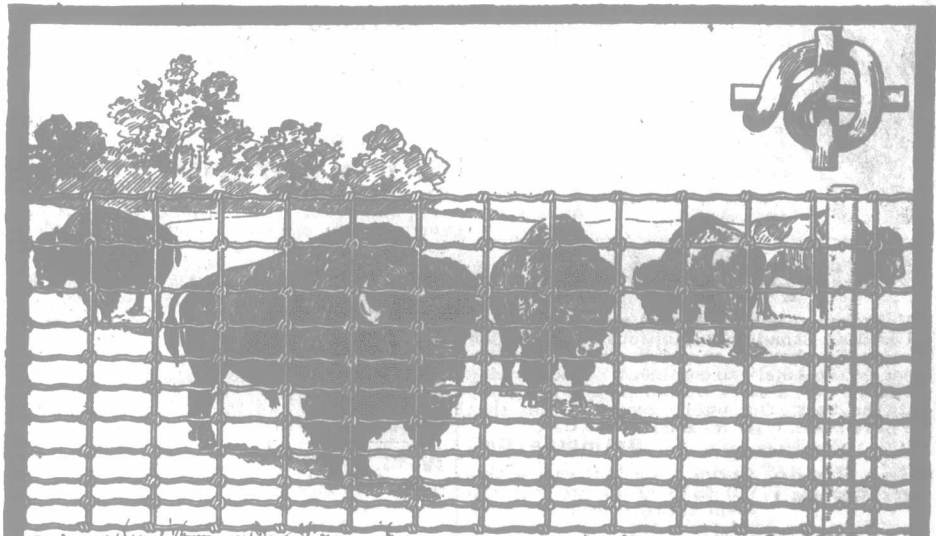
1. Is there any limit to a doctor's charges?

2. Will A be compelled to pay the full amount charged?

3. Is a doctor in any degree responsible for the success of his work when he charges so highly? SUBSCRIBER.

Ans.—1. Yes; they must be reasonable. 2. A ought to write the surgeon, or have the physician see him. We think that upon his being made acquainted with A's circumstances, he will probably moderate his bill. If not, then A ought to tender him in cash such amount as, having regard to all the circumstances, would be a reasonable fee for the service performed.

3. It is a circumstance that may fairly be taken into account in the settlement, whether the matter be dealt with by the parties concerned, or by a court of law.



The fence that restrains the Wild Buffalo at Elk Island (Government) Park, near Ft. Saskatchewan, Alberta, is Lamb Fence. Twenty miles of Lamb Fence around this park, which contains over Four Hundred Wild Buffaloes, the only large herd of Buffaloes in the world.

If Lamb Fence will hold a Wild Buffalo, it surely will hold the most vicious domestic animal.

Lamb Fence is a fence that will go over any hill or through any valley—a fence with a straight, hard steel upright and a knot that never slips—a fence with wires of even length—a fence made of high-grade steel wire—a fence that will continue to be its owner's pride.

OUR AGENTS ARE PROSPEROUS

They have a line of fence that sells readily and gives entire satisfaction. They have a firm behind them that treats them right in every way.

The H. R. LAMB Fence Co., Ltd. Winnipeg, Man. London, Ont.

SCOTCH SHORTHORN BULLS—Woodfield Prince, also the \$4,100 Golden, imported, =50088= (89064), dam Trout Creek Missie 20th, =65987=; red, little white; calved July 6th, 1906; a show bull. Also four extra bull calves, 8 to 10 months, by the Lavender bull, Trout Creek Wonder =56167= (947851), out of Scotch cows; imported by W. D. Platt; eligible for American Herdbook. Write for pedigrees. Gibbs' Woodfield Stock Farm, St. Catharines, Ontario.

STONEYGROFT STOCK FARM, St. Anne de Bellevue, Quebec.

(Adjoining the new Macdonald College.)

Breeders and Importers of High-class

Ayrshire Cattle, Clydesdale Horses, Yorkshire Swine and Collie Dogs

Anything for sale. We offer especially a few select young bulls to clear cheap. Orders booked for spring pigs.

HAROLD M. MORGAN, Prop. E. BJORKELAND, Manager, Bell Phone connection.

Wardend Ayrshires We have only four spring bull calves on hand for sale. Will sell them at reasonable prices. Sired by White Prince of Me is No 21895, bred by A. Hume, Menie. F. W. TAYLOR, Wellman's Corners, Hoard's Sta., Q. T. R.

AYRSHIRES Young bulls from producing dams and same sire, from 7 months up to 2 years. Have good ones and will speak for themselves. H. DYMENT, Hickory Hill Stock Farm, Clappison, Ont. Dundas Station and Telegraph.

STONEHOUSE AYRSHIRES

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

Burnside's Champion Ayrshires



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

R. R. NESS, Howlok, Que.

SPRING BROOK AYRSHIRES.

Produced nearly 7,000 lbs. of milk each, testing 4.9 per cent. butter fat, during the past three years. 30 head for sale before spring. All ages. Write for prices W. F. STAPHEN, Box 163, Huntingdon, Que.

Glenhurst Ayrshires

Most established herd in Ontario. Imp. and Canadian-bred. Average B. F. test for the whole herd, 4.3; milk yield, 40 to 60 lbs. a day. For sale: females of all ages, and several young bulls; all by imp. sire and some out of imp. dams. James Benning, Williamstown P. O., Lancaster Sta.

SPRINGHILL AYRSHIRES!



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

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

CATTLE FATTEN QUICKER

—take on weight faster—make better beef—when dehorned. Cows give more milk—and half the danger in shipping by rail or boat is eliminated.

KEYSTONE DEHORNER does the work in 2 minutes. Cuts from 4 sides at once. Write for free booklet. R. H. MCKENNA 219 Robert St. Toronto, Ont. Late of Picton, Ont.

KELSO S. F. AYRSHIRES

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

Subscribe for "Farmer's Advocate"

The "STAY THERE"
Aluminum Ear Markers
 are the best. Being made of aluminum they are lighter, brighter, stronger and more durable than any other. Fit any part of the ear. Nothing to catch on feed trough or other obstacle. Your name, address and any series of numbers on each tag. Sample tag, catalogue and prices mailed free. Ask for them. Address
WILCOX & HARVEY MFG. CO.
 104 Lake St., Chicago, Ill.

Brampton Jerseys

Unbroken record of several years success at all leading Canadian exhibitions is unequalled by any other herd of any kind or breed of live stock on the American continent. When buying a family cow, a stock bull or a dairy head, buy only the best. Our public record proves that we have them. **B. H. BULL & SON,** Brampton, Ont.

Pine Ridge Jerseys Having more bull calves this fall than usual, we will sell them cheap, considering quality. They are bred from our stock bull, Earl Denton, gr. son of the famous Flying Fox. Wm. Willis & Son, Newmarket P. O. & Sta.

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

HOLSTEINS Two choice-bred bulls ten months old. Also calves for April and May delivery, sired by imported Ykema Sir Poch 2nd (Johanna Rue Sarcastic). Ohio Improved Chester Whites. Largest strain bred in Canada. All ag. s. Express prepaid. Safe delivery guaranteed. **E. D. GEORGE, Putnam, Ont.**

FAIRVIEW HOLSTEINS! For sale: Just now we have about a dozen cows and heifers, some of them in the R. of M., and all with official backing on both sides, in calf to the Toronto 8-times champion. Also a number of bull calves with official backing. **THOS. HARTLEY, DOWNSVIEW P. O.** Weston and Downsview stations.

Glenwood Stock Farm—Holsteins and Jerseys all sold out. Have a few young York shire sows, about 1 month old, for sale cheap. True to type and first-class. Bred from imported stock. **THOS. B. CARLAW & SON, Warkworth P. O.** Cambellford St.

MAPLE GROVE HOLSTEINS.—Every female in the herd is in the Record of Merit. My stock bulls are backed up by heavy record dams. For sale: A few choice young bulls bred from Record sires and dams. **H. BOLLERT, Cassel P. O., Tavistock Sta.**

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

QUESTIONS AND ANSWERS.
 Miscellaneous.

24-SHARE BEEF RING.

I wrote you some time ago about a chart for a twenty-four-share beef ring. I have been watching the paper, but have seen nothing about it so far. There is one to be operated here this summer, and we would like very much if you could supply us with one. **D. S. F.**

Ans.—This question was published, and a request made for the information from our readers, but none has, up to date, been received. We shall be obliged if some reader, who has had experience with a twenty-four-share beef ring, will send us a chart and explanation of its working.

UNSATISFACTORY FARM HAND

I hired a man for eleven months for \$235, nothing being mentioned by the month. He took off all holidays, not even being here to do chores, and not asking whether I would be here either. In the fall, he was helping at the neighbors' to thrash; quit at quarter to six, took supper, and came home; I, also, working until six. I had supper and had just commenced at the supper when he came home. He went to the house, not helping, or is it not supposed that they should help to do chores? So, on Nov. 11th, Sunday, we spoke of going away, it being a nice Sunday, and seldom being away. He said he was going away. He also said we could go when the weather is not so nice, as he must go when it is nice, and he went. Came home that evening after chores were done; got up next morning as usual, and worked till breakfast. After breakfast, I gave him his work. When I came to the barn, he was packing his things and said he was going to leave. I said all right, if you think you have a right to go you can, but I will not pay you. He had two months more to put in for the eleven months. He took out some money while here (\$60). Will I have to pay him in full for the time he worked, he not giving any excuse for leaving? **Ontario. A SUBSCRIBER.**

Ans.—No; you need only pay him what would be a reasonable amount, considering all the circumstances.

DAUBENEY OATS—ANNUAL CROPS FOR PASTURE.

1. In looking over the reports of the Experimental College, I notice that Daubenev oats are especially recommended for mixing with Mandscheuri barley. Would you kindly give me any information as to where I can procure the oats? I have the Sensation, but they seem to be too late for the six-rowed barley.

2. I would also like to know of a mixture I can sow for pasture this coming summer, as my pasture will be scarce. **F. F.**

Ans.—1. Parties wanting certain articles of this kind, whether it be a special variety of seed grain or a farm hand, would, unquestionably, find it to their advantage to insert in our "Want and For Sale" advertising columns a card such as this:

"WANTED.—Ten bushels first-class Daubenev seed oats. State price."

The cost of one insertion of such an advertisement, allowing five words for name and address, would be a mere trifle of forty-five cents, or three cents a word. This column is maintained for the express convenience of our subscribers, and it should be much more fully utilized. Whether you want to buy or sell, the promptest way to get into touch with seller or buyer is through our "Want and For Sale" columns.

2. Six or seven years' experiments at the Ontario Agricultural College with 17 different crops, have indicated the following mixture as the best one tried: One and one-half bushels oats, 30 lbs. Early Amber sugar cane, 7 lbs. common red clover, or a total of 88 lbs. per acre. The oats come on first; later, in hot weather, the sugar cane supplants the oats; and towards the fall, the clover furnishes a good deal of pasture. Unlike corn, the sugar cane is in no way injured by pasturing. In 1906, a piece of seven acres of this, in the experimental department at the College, yielded more than enough stuff to graze seven head of cattle.

FOUR GEESE TO ONE GANDER.

Would four geese be too many for one gander? Our gander died a few days ago, and we took our two geese to a neighbor, who had two of their own. They seem to agree all right.

X. Y. Z.

Ans.—One to four females to a male is the advice of poultry authorities. Geese are disposed to pair. Young ganders often take up with but one goose. Older birds will generally mate with more. If the gander in question will distribute his attentions adequately, we should be disposed, under the circumstances, to entrust the quartette of geese to his care.

UNTHRIFTY BULL.

I have a Shorthorn bull, two years old. He was stabled all last summer, and did fairly well; but at the first of winter he went off his feed, and failed away to a skeleton. I have tried every known remedy, but he won't eat; just stands and grates his teeth.

J. C.

Ans.—We would advise purging him with a pint and a half of raw linseed oil. If not sufficient, repeat in a table-spoonful of the following three times daily, given as a drench in a pint of cold water, viz., equal parts of sulphate of iron, gentian, ginger, nux vomica, nitrate of potash and bicarbonate of soda. Feed small quantities of good clover hay, chopped oats and bran. If he will not eat, drench him with oatmeal gruel and boiled flaxseed.

FERTILITY AND INCUBATION—HATCHING DUCK EGGS.

My father takes your valuable paper, and I think I get as much good out of it as he does. I am especially interested in poultry.

1. I have four Barred Plymouth Rocks, and a pure-bred Barred Plymouth Rock rooster in one flock. What is the best feed to insure fertile eggs?
 2. I have a 60-egg incubator, and have an unused bedroom over the kitchen, with a register between, also a cement-floor cellar with a furnace in it. Which would be the better place to run the incubator in?
 3. What are the instructions for incubating duck eggs? **J. E. P.**

Ans.—1. The feed has some influence, but the common mistake made by nearly everybody, is that the number of chickens you mention, is that they confine them in too small quarters. For instance, hens in flocks of 100 will do pretty well if given five square feet of floor space. I would want ten feet per bird, and the more range they can have the better. We get fertile eggs best where chickens have a grass range, over manure piles, etc. I would suggest you feed your hens all the clover hay they will eat, which will be considerable, the leaves being the part the hens like. Also give them a little wheat and some corn and a little meat, and all the oyster shells and coal ashes and gravel they will eat. I think gravel and coal ashes are superior to commercial grit. You want to feed the grain in litter so as to give the birds as much exercise as possible. A little meat food or cut bone will also be beneficial. You will need to be careful not to feed too much, or your hens will get over fat. If you make them work for all the food they get, i. e., the wheat and corn, they are not likely to get too fat.

2. If the cellar which you mention is fairly well ventilated, and has no decaying material (vegetable) in it, I think it would be the best place, for the simple reason that you will get a more even temperature, and your machine will not vary so much in temperature.

3. To get the best results from duck eggs, they should not be kept very long after they are laid, i. e., I think duck eggs should be set, at least, every week, and if you could set them every other day, so much the better. Old eggs seldom hatch well. Operate the machine, as far as temperature, etc., is concerned, the same as you would for hen eggs, only I would suggest for your machine that each day you dip a flannel cloth in water at a temperature of about 100 degrees, wring the same out, and place it over the eggs, and put the tray back in the machine, and leave there for fifteen or twenty minutes. **W. R. GRAHAM.**

DISPERSED SALE OF 25 PURE-BRED HOLSTEINS

To be held MARCH 26, 1908

Two miles north-east of Hespeler, C. P. R. and G. T. R. A M. train will be met. Catalogue on application. Terms of sale, 10 months on approved paper. Lunch at noon.

Elias Pannabecker, Hespeler, Ontario.

LOOK HERE
 Have on hand bull calves from choice dams, and sired by son of greatest cow in Canada. **Boutje Q. Fletertje De Kol,** 645 lbs. 7 days; 95 lbs. 1 day. His sire's dam and granddam have records averaging over 55 lbs. butter week. Also choice bulls fit for service. Prices right. **FRED ABBOTT, Fairview Stock Farm, Harriestville, Ont.**

Holstein Bulls Two choice bulls, 10 and 13 months old, sired by Sir Abbe Kirk Poch, No. (1244), and from heavy-producing dams; also a few young cows in calf. For sale **Martin McDowell, Norwich Ont.**

RECORD OF MERIT HOLSTEINS
 Herd 110 strong. Over 60 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 1 month to 1 year of age, all out of Record of Merit cows, and sired by the stock bulls. **P. D. HED, Oxford Centre P. O. Woodstock Station.**

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

HOLSTEINS
 We must sell at least 25 cows and heifers at once in order to make room for the increase of our large herd. This is a chance of a lifetime to buy good cattle at bargain prices. The best way 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.**

LYNDALE HOLSTEINS!
 Bull calves for sale out of cows with records of from 18 to 20 lbs., also 3 heifers coming 2, and a number of young cows in Record of Merit, bred to a grandson of **Pietertje Hengerveld's Count De Kol.** **BROWN BROS., LYN, ONTARIO**

FOR QUICK SALE.—Choice registered Holstein bull calves at \$25.00 each, sired by **Prince Gretqui De Kol**, whose dam has an official record of over 18 pounds at three years old. Express paid anywhere in Ontario. **W. A. BRYANT, Cairngorm, Ont.**

QUEEN CITY HOLSTEINS.
 15 young cows due to calve during next 3 mos.; bred to bulls having high official backing. Order booked for bull calves at moderate prices. A few bulls ready for service. Farm 7 miles north of Toronto, near the Metropolitan Ry. Write: **R. F. HICKS, Newto: Brook, Ont.**

Evergreen Farm Holsteins—FOR SALE: 3 months old, from A. R. cows. Dam and sire's dam average from 20.55 lbs. as 3-year olds, to 22.0 lbs. as mature cows in 7 days; also young females bred to **Sir Mercens Favorit.** **F. C. PETTIT, Burgessville, Ont.**

Only Bull Calves FOR SALE. **HOLSTEIN and Ayrshire.** Of the best performing strains. **GEO. RICE, Annandale Stock Farm, Tillsonburg, Ont.**

FAIRVIEW HERD is the place to buy your next bull. I can furnish you with a bull sired by our great herd bull, **PONTIAC KORNDYKE**, who has 19 daughters in the last year's report that made official records from 18 pounds at less than two years old to over 51 pounds at four years, and the whole number averaged over 4 1/2% fat. No other bull in the world has ever made such a showing in one year. I have just tested another of his daughters that made 26.40 pounds butter in seven days with second calf. I have over 50 cows and heifers in calf to him. Come and look my herd over before making your selections elsewhere. **E. H. BOITAR, Heuvelen, St. Law. Co., N. Y., near Prescott**

HOLSTEINS FOR SALE!

The undersigned are uniting their herds, and to make room, must sell a number of cows and heifers, also several young bulls. 75 head to choose from. Come and see them, or write for prices and description. **E. & F. MALLORY, FRANKFORD P. O.** Frankford and Belleville Sta.

MAPLE GLEN HOLSTEINS
 Herd of 35 head with A. R. O. breeding, backed up by butter tests of over 16 lbs. as a two-year old to over 26 lbs. as a cow. A good herd to select from. Two spring bull calves on hand A. R. O. test of one is over 26 lbs. for dam and 6. dam. Come and inspect the herd. Any animal will be offered for sale. **G. A. GILROY, GLEN BUELL, ONT.**

Maple Hill Holstein-Friesians

Bull calves from No. 1 dams, sired by bulls with great official backing. Write for prices. **G. W. GLENN, St. George, Ont.**

"THE MAPLES" HOLSTEIN HERD

Young bulls fit for service. Bull calves. Also a few choice heifer calves. **Walburn Rivers, FOLDEN'S, ONT.**

PRINTED BY REQUEST.

Mix the following by shaking well in a bottle, and take in teaspoonful doses after meals and at bedtime: Fluid Extract Dandelion, one-half ounce; Compound Kargon, one ounce; Compound Syrup Sarsaparilla, three ounces. A local druggist is the authority that these simple, harmless ingredients can be obtained at nominal cost from our home druggists.

The mixture is said to cleanse and strengthen the clogged and inactive Kidneys, overcoming Backache, Bladder weakness and Urinary trouble of all kinds, if taken before the stage of Bright's disease.

Those who have tried this say it positively overcomes pain in the back, clears the urine of sediment, and regulates urination, especially at night, curing even the worst forms of bladder weakness.

Every man or woman here who feels that the kidneys are not strong or acting in a healthy manner should mix this prescription at home, and give it a trial, as it is said to do wonders for many persons.

The Scranton (Pa.) Times was first to print this remarkable prescription, in October of 1906, since when all the leading newspapers of New York, Boston, Philadelphia, Pittsburg and other cities have made many announcements of it to their readers.

After an action a chaplain was visiting the wounded men lying in the field hospital. Among them was a soldier who had been kicked very severely by a mule, and, being in excruciating agony, was disturbing the general quiet of the ward by his incessant groaning.

"Come, come, my poor chap," said the chaplain, kindly, as he went to his bedside, "you must try and bear the pain like a man. It's no use, you know, kicking against fate."

"Bedad, sorr, you're right," said the soldier, opening his eyes and looking up at the speaker, "especially when it's the 'fate' of an army mule."

QUESTIONS AND ANSWERS. Miscellaneous.

REARRANGING LIFE INSURANCE.

My husband took out an insurance policy about ten years ago in favor of his heirs. We have been married now over one year.

- 1. Would I be his legal heir now?
2. Would he have to take out a new policy?
SUBSCRIBER.

Ontario.
Ans.—1. No.
2. No; but the present policy could, and ought to, be adapted to meet the change of the insured's circumstances and responsibilities.

COAL SCREENINGS FOR HOGS.

Is there any benefit or harm in giving hogs the screenings of hard coal, as all hogs are very fond of it, and will eat it greedily? We get it at the coal-yards for hauling away. J. J. S.

Ans.—We think that no harm and probably some good may result from placing coal screenings where the hogs may take them at will, as their system seems to crave grit of some sort. Charcoal or wood ashes would probably be more helpful, if available, and sods, stored in the fall in a cellar to be thrown into the hogpen occasionally, have a good effect when partaken of.

CRIBBER.

Have a fine two-year-old colt that is a cribber. Is there anything I can do to stop her? Would it hurt her for breeding purposes? Will she be better or worse to run in pasture in summer? F. P. Y.

Ans.—In most cases, the vice can be checked by bucking a strap around the throat, not so tight as to interfere with breathing or swallowing, but tight enough to prevent expansion of the throat, which occurs while cribbing. Keeping loose in a box stall, without manger or rack, is recommended. If she takes hold of the wall, it may be prevented by daubing it with some foul-tasting material, as a solution of aloes. We do not think it will hurt her for breeding purposes. She will certainly be better in pasture.

CURE.

Mare got curbed last fall. Is quite lame now, especially when driven a long distance. What treatment would you advise? SUBSCRIBER.

Ans.—Give mare rest, and apply hot water for two or three days to allay inflammation. Follow by blistering with the following: Bichloride of mercury and cantharides, of each two drams; vaseline, two ounces. Clip the hair off the part, and rub the blister with smart friction. Tie so she cannot bite the part. In twenty-four hours, rub well again with the blister, and in twenty-four hours wash off, and turn her in a box stall. Apply vaseline every day until the scale comes off. Then tie her up and blister again as at first. It may be necessary to repeat the blistering once a month for some time.

TENANT AND TIMBER.

Three years ago, I rented a farm for a term of five years. As an extra privilege, I had the following clause added to the lease: "The said lessee to have such down timber for wood as lessor may see fit to let him have, but for his own use only, not to sell, provided lessee is willing to go in with lessor and work together in getting out and get out any down timber for himself that he might choose. For some reason he did not get any out. About the middle of February, his wood was getting very low. He came to me, and, as the snow was very deep, I gave him permission to take a load or so of some wood I was reserving for my own use to keep him going until the snow should settle enough to get at the down timber. He took another man in with him, and they slashed down a pile of wood, and were still cutting when I stopped them. Although it was wood I did not intend to have, I did not prevent him drawing it home. I should judge, by his pile, he will have enough to do him a year. Can I refuse to give him any more wood off my farm while he remains my tenant? SUBSCRIBER.

Ontario.
Ans.—We think not.

4 YEAR OLD BOY COULDN'T STAND! Limbs Weakened by La Grippe Made Strong by Zam-Buk.

Mrs. T. Brixton, of 5 Woodworth Ave., St. Thomas, Ont., says: "I had had some experience as to the efficacy of Zam-Buk in healing sores, cuts, etc., and had heard good reports from friends who also tried this balm, so when a year ago my little lad, four years of age, was left weak in the limbs as the result of a severe attack of influenza, I began rubbing in the Zam-Buk. His legs were so weak he would tremble and shake and was unable to stand for any length of time. Frequent applications of this ointment well rubbed in, seemed to strengthen him daily, and in a very short time the shaking and trembling in his limbs had been banished and he soon got strong and able to run about, thanks to Zam-Buk."

Zam-Buk is a splendid embrocation for rheumatism, sciatica, etc., and is without equal as a healing balm.
WHAT ZAM-BUK CURES.
Zam-Buk cures cuts, burns, scalds, ulcers, ringworm, itch, barber's rash, blood poison, bad leg, salt rheum, abrasions, abscesses and all injuries and diseases. Of all stores and druggists soc. box or from Zam-Buk Co., Toronto, post-paid for price. 3 boxes for \$1.25.

FREE!

Send coupon and 1c stamp for free sample to Zam-Buk Co., Toronto, Ont.

Cedar Wood Yorkshires

100 head brood sows (imp.) and the product of imp. stock, weighing from 500 to 600 lbs. each. Stock hogs by imp. sires and dams, very large and full of quality. Young stock of both sexes constantly on hand for sale. Pairs not akin. Satisfaction guaranteed.

P. O. COLLINS, Bowesville P.O., Ont. Manotick Sta., C.P.R.

EAST BANK HERDS

Yorkshire and Berkshire Swine, Shorthorn Cattle.

As I must leave farm in March, I am offering 40 sows of choice breeding and quality. Prizewinners and the get of prizewinners. Also cows and calves bred, fed and sold right.

IRA L. HOWLETT, KELDON.



MONKLAND YORKSHIRES

are the easily fed, quick maturing kind. The sort the farmers want. All ages for sale. 100 sows bred now.

JAMES WILSON & SONS, FERGUS, ONTARIO.

Newcastle Tamworths and Shorthorns

For Sale: 100 pigs, both sexes, all ages. Sows from 10 months to 2 years, bred to imp. Cholderton Golden Secret, all descendants of Colwill's Choice and Newcastle Warrior, both Toronto champions. Also two choice Shorthorn bulls, ready for service, from choice milkin' dams, and sired by a son of imp. Joy of Morning. A. A. COLWILL, NEWCASTLE, ONT.

Glenburn Herd of Yorkshires

Winner of gold medal three years in succession. 6 young boars from 6 to 9 months; also 75 young sows, from 6 to 19 weeks old.

David Barr, Jr., Box 3, Renfrew, Ont.

Elmhurst Berkshires

Our large brood sows are all imported. Stall Pitts Middy, Imp (18856), winner of first at Oxford, 1907, heads the herd. All stock shipped by us as represented or money refunded. Express prepaid. Large stock to choose from. Write us.

H. M. VANDERLIP, Importer and Breeder, CAINSVILLE P. O., BRANT CO.

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. CHEAS CURRIE, Schaw Sta., C.P.R. MORRISTON P.O.

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.



LARGE ENGLISH YORKSHIRES.

We have a limited number of choice young pigs for sale, bred from our choicest sows and got by the imported boars, Dalmeny Joe 13577 and Broodhouse Beau 14514. Pigs from the latter won all the first prizes at the Ottawa Fat Stock Show last March for the best dressed carcasses, and sweetstake over all breeds or grades. We guarantee satisfaction in all mail orders. JOSEPH FEATHERSTON & SON, STRETSVILLE, ONT.

SUNNYMOUNT BERKSHIRES!

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

Willowdale Berkshires are unsurpassed for quality and breeding.

Young stock, all ages, for sale reasonable. Satisfaction guaranteed. Long distance telephone in residence. J. J. WILSON, Importer and Breeder, Milton P.O. and Station, G.T.R. & C.P.R. When Writing Mention this Paper.



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.

Maple Grove Yorkshires.

Animals of choicest breeding and individual excellence compose our herd. We have them both imported and Canadian-bred. Our present offering includes young sows due to farrow in April and May. Boars fit for service. A fine lot of boars a d sows from 3 to 5 month old and, in fact, pigs of both sexes—any age. Everything guaranteed as represented. Price reasonable. W. S. McDIARMID FINGAL P. O., SHEDDEN STATION.



Large White Yorkshires!

Am offering at the present time a choice lot of boars ready for service, from imported stock, also young pigs of both sexes, not akin. Prices right, and quality of breeding unequalled. Write or call on H. J. DAVIS, WOODSTOCK, ONT.

CHESTER WHITE HOGS

The largest herd of bacon-type Chester White hogs in Canada. Strictly high-class have won highest awards. Young stock of both sexes always on hand. Satisfaction guaranteed. ROBERT CLARKE, 41 Cooper Street, Ottawa, Ont.

MOUNT PLEASANT HERD OF TAMWORTHS AND HOLSTEINS.

—For sale: Pigs of either sex from 6 weeks to 9 weeks; also 12 bull and heifer calves from 1 week to 1 year old. The Gully in residence. Bert-am Hoskin, 'Phone P. O.

Duroc-Jerseys

Boars fit for service. Sows ready to breed. Several sows in pig, also younger ones. Imported Canadian Boy 19997 heads our herd. W. C. CAMPBELL & SONS, HARRICH, ONT.

Large English Berkshires

for sale from imported stock. Sows with pig and pigs for sale. All at 1c. At reasonable prices. Guaranteed satisfaction. Boars and sows delivered at Woodstock station, C.P.R. or G.T.R.

JOSHUA LAWRENCE, OXFORD CENTER, ONT.

Yorkshires—Boars ready for service; sows ready to breed, and bred; young pigs just weaned and ready to wean.

Cotswold and Shropshire rams, yearlings and lambs, registered. GEO. M. SMITH, Hagersville, Ont.

RAW

SHIP TO WE PAY ALL EXPRESS CHARGES

E. T. CARTER & CO.

83-85 Front St., E., TORONTO CANADA.

Extra Special SPRING MUSKRAT Prices for LINX, FOX, SKUNK

WRITE FOR MARCH PRICE LIST

The Oldest and Most Reliable

Hide, Wool and Fur House in Canada

FURS

Table with 3 columns: Cattle and Sheep Labels, Size, Price, doz. 50 tags. Cattle 75c, \$2.00. Light Cattle 60c, \$1.50. Sheep or Hog 40c, \$1.00.

Cattle size with owner's name and address, and numbers; sheep or hog size with name and numbers. Sample and circular mailed free. Get our neighbors to order with you and get lower price. F. G. JAMES, Bowmanville, Ont.

FAIRVIEW SHROPSHIRE OFFERINGS

Show rams, show ewes and breeding stock. Of the best of breeding and best in quality. For 25 years the flock is known as the Producer of the highest type of sheep. If you need a choice ram, or a few good ewes. Write for circular and tempting prices to J. & D. J. CAMPBELL, Fairview Farm, Woodville, Ont.

Oxford Down Sheep, Shorthorn Cattle Yorkshire Hogs.

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

THE GENUINE SMITH STUMP PULLERS

W. SMITH GRUBBER CO. CATALOG FREE—DEPT 023 LACROSSE, WIS., U.S.A.

QUESTIONS AND ANSWERS.
Miscellaneous.

SHIPPING STOCK TO THE WEST.

Does the C. P. R. or the Government send out an association car for pure-bred stock to the West? If so, what are the rates, and where does it start from? Is a man sent in charge? How do those taking out stock as settlers' effects do about watering them as they go along? N. M.

Ans.—The Director of Live Stock, Ontario Department of Agriculture, A. P. Westervelt, Parliament Buildings, Toronto, arranges shipments of carload lots, made up of contributions from different shippers to various points in the West, and a man is sent in charge to care for and distribute. There is no special rate for pedigreed stock in less than carload lots from Ontario farther west than Fort William. Write Mr. Westervelt for particulars as to starting point, etc.



The Largest Line of Grinders
IN CANADA.

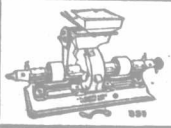
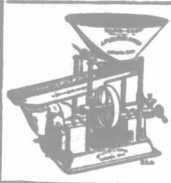
In sizes to suit any power. These cuts show three classes.

549. For use on the Farm. Three sizes.
550. Farm use or custom work (stationary or for moving from place to place).
551. Attrition Mills, for elevators, custom mills, etc. Finest work and greatest capacity.

We have just what YOU need in these "Rapid-Easy" Grinders, which do more work with same power than others. Information, circulars, etc., upon request.

J. Fleury's Sons, Aurora, Ont.

Medals and diplomas: World's Fairs, Chicago and Paris.



PLEASE MENTION THIS PAPER.

Dr. McLaughlin Claims Success IS DUE TO ELECTRICAL ENERGY

What happiness is there in this life without HEALTH? Who achieves success in any walk of life without ENERGY? "To the swift the race, the battle to the strong." In this 20th century of progress the man who reaches the front ranks is the **PUSHER**—the man of **VIM** and **VIGOR**! When this fellow shakes your hand, he looks you in the eye and gives you a grip that makes you notice him. This man has friends, and lots of them. He believes that when you laugh "the world laughs with you." Such a man will get to the front, even if his education is limited to the "Rule of 3." When opportunity knocks at his door he is on the spot ready always to make the most of life's possibilities. What is the keynote of his success? **MAGNETISM—ELECTRICITY**. They are one and the same thing. His body is full of it, for he has lived right; he has not abused Nature's laws, but has guarded his **HEALTH**—truly man's greatest capital; or if ever he has fallen into dissipation and excesses, he has not polluted his system with drugs, but has used **Electricity**—the **DR. McLAUGHLIN ELECTRIC BELT**—the natural remedy for restoring vitality—and thus again has quickly taken his place as "a man among men," and has profited by his experience.

MR. C. H. MELVIN, Aylesford, N. S., says: I am going to tell you how things are with me now. I do not remember when I felt so well as I do now. I have not had an ache or a pain since I began using the Belt. I sleep well, and when I awake in the morning I am ready to spring out of bed. I feel so happy and well that I can hardly believe that I am the same person.

Contrast this man with the other, who walks as though he had lead on his shoes, whose looks, whose talk, whose sallow skin and shifting eye, all tell the dark story of his misfortune; a body racked with pains and aches, shattered nerves, and a mind unable to think for himself; getting the crumbs of life's opportunities, while his successful rivals walk away with all the prizes. You had just as good a start, but you allowed appetite, desire, passion, to get the best of you, and fooled away your chances. "It's never too late to mend." You can yet win out, as thousands of others have done, if you will let me show you the way. Yes, but you are taking some medicine now and want to see what that will do for you. You can save your stomach that expense if you will come to me and tell me all about your case now. I want to show you what my **DR. McLAUGHLIN ELECTRIC BELT** has done in the way of curing Lost Vitality, sleepless nights and wretched days, nervous disorders, kidney and bladder troubles, weak back, loss of appetite, poor digestion, pains and aches, loss of energy and ambition.

MR. HUGH McCULLOCH, of Glen Roberts, Ont., writes me as follows: Dear Sir,—Is it not high time that I should report to you? I must say that I feel like a new man since I began the use of your Belt. My sore back has not troubled me since the first time that I buckled my Belt around my waist, and my appetite is very good.

It acts the same on women. Read what **MRS. JANE McDONALD**, 70 New Ainslie St., Galt, Ont., says: "Dear Sir,—On the first day of this month I started to wear your Belt according to rules, and I now feel like a new woman. My folks tell me that I am looking better than I have for some time. I thank you for your treatment, and I will recommend your Belt to my friends."

MR. THOS. GRAHAM, Mountain View Farm, Inglewood, Ont., writes: "Dr. McLaughlin: Dear Sir,—I am pleased to say that I am well again, and have no pains in my back, unless I get wet. I have praised your Belt to everyone I know, and have answered several letters. Your Belt did its work for me. Wishing you success in your work, and thanking you for what you have done for me."

Not a Cent Until Cured.

That is my offer. You take my latest improved appliance and use it in my way for three months, and if it does not cure you need not pay me. My only condition is that you secure me, so that I will get my money when you are cured.

If you cannot call and see me personally, you can write for my book. It will cost you nothing and will tell you lots of things you ought to know. Send coupon for this beautifully illustrated 80-page Free Book to-day. "Electricity is Life." I know best how to apply the remedy, and thousands of men owe their health and happiness to-day—their success in life—to **DR. McLAUGHLIN'S ELECTRIC BELT**.

Office Hours—9 a. m. to 6 p. m.; Wednesday and Saturday to 9 p. m. Consultation free.



DR. M. S. McLAUGHLIN,
112 Yonge St., Toronto, Can.

Please send me your book free.

Name

Address

LINE FENCING.

A grass farm of mine is all fenced, but one-half of line fence at back, which belongs to man abutting my farm. He had a brush fence there once, but it is done, and I have asked him to fence, and he promises to, but never does. As it is in bush and rough land, I might have difficulty to prove that he pastured against it.

1. Can I make him fence it?
2. If so, how should I proceed?

SUBSCRIBER.

Ans.—1. Yes.
2. You are entitled to take compulsory proceedings under "The Line Fences Act" (Revised Statutes of Ontario, Chap. 284). See especially sections 4 to 6, inclusive.

SEEDING ALFALFA ON FALL WHEAT.

Would ask your opinion re seeding alfalfa with fall wheat? Would you advise sowing very early, or wait until there was a growth, and harrow it in light? W. B.

Ans.—Except for very heavy land, we incline to favor delaying the seeding till the land can be harrowed. After harrowing, sow the seed, and roll, then follow with a weeder, if one is available, to loosen up the crust. On stiff clay, it might be well to sow in April, as clover seed is usually sown, but we cannot speak positively on this point. We wish some readers would do a little experimenting along this line, and report results. Remember that fall wheat is not a very good crop with which to seed alfalfa. We would not advise the experiment, except on a very small scale.

DAUBENEY OATS FOR GRAIN MIXTURE.

In a late issue I saw an enquiry regarding Daubenevy oats. Are these considered to be the best variety of oats to mix with six-rowed barley when it is intended to sow grass seed with the crop? Please let me know if there are other varieties equally suitable for that purpose, and the proper amount of the mixed grain to sow per acre. I would suppose early maturity and stiffness of straw would count as well as large yield of grain. CULTIVATOR.

Ans.—Of all the mixtures used for grain production, we have obtained the highest yield per acre by using one bushel (34 lbs.) Daubenevy oats and one bushel (48 lbs.) Mandscheuri barley per acre. This would make a total mixture of 82 lbs. per acre. The Daubenevy variety of oats is exceedingly early in reaching maturity, and I do not know of any better variety of oats with which to sow grass seed than the Daubenevy. It is quite probable that a little lighter sowing of the mixture than is here indicated might give the grasses and clovers a rather better chance to grow. I would rather, however, seed down with a mixture of one bushel of oats and one bushel of barley than with two bushels of oats without the barley.

O. A. C. C. A. ZAVITZ.

MEAL RATION FOR STEERS.

What proportion would I require to mix corn at \$1.30 per cwt., oats at \$1.50, and oil cake at \$1.80, to give the best and most economical results for fattening two-year-old steers weighing about 1,200 lbs. each? Would it be advisable to mix some bran at \$24 per ton with it? A SUBSCRIBER.

Ans.—A good deal depends upon the roughage fed. Clover, alfalfa, oil meal and bran are feeds relatively high in protein content. Corn fodder or silage, grain straw, timothy hay and corn meal are relatively richer in carbohydrates than in protein. Oats contain a fair proportion of each; or, in other words, are fairly well balanced as to nutrients. Assuming that the roughage consists of mixed hay or of clover hay and corn silage, then the most economical meal ration, judged from the standpoint of chemical analysis, would be corn meal and oil-cake meal in the proportion of about 2½ to 1, or, say, 5 pounds of corn meal and 2 of oil meal per head per day. This ration, however, would be too heavy and concentrated for best results in practical feeding, hence the introduction of about 25 per cent. of oats or bran, or preferably a mixture thereof, would be advisable, notwithstanding that the prices quoted for these feedstuffs make them relatively more expensive per unit of nutrients than the corn and oil meal.