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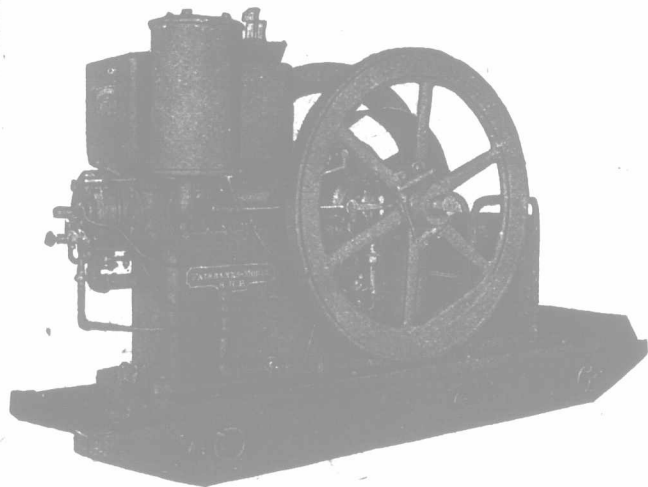
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DL. XLIV.

LONDON, ONTARIO, AUGUST 5, 1909.

No. 880



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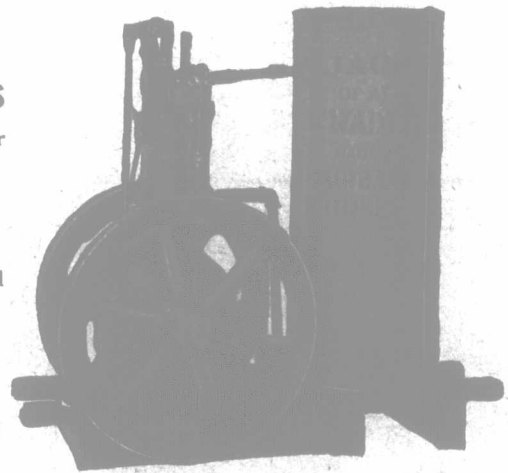
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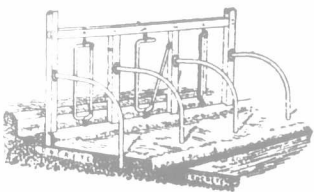
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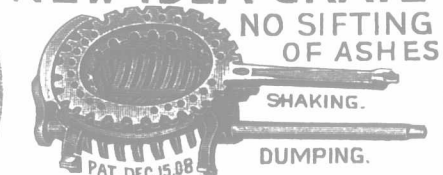
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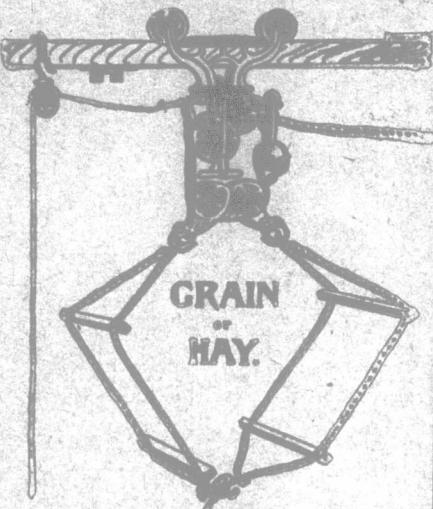
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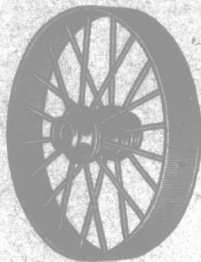
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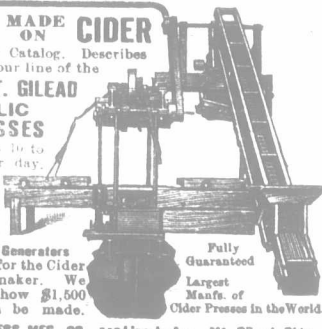
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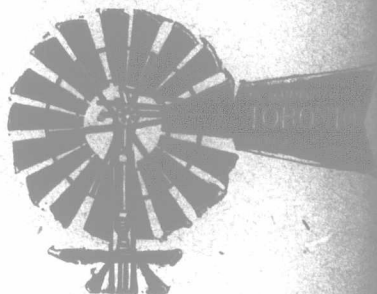
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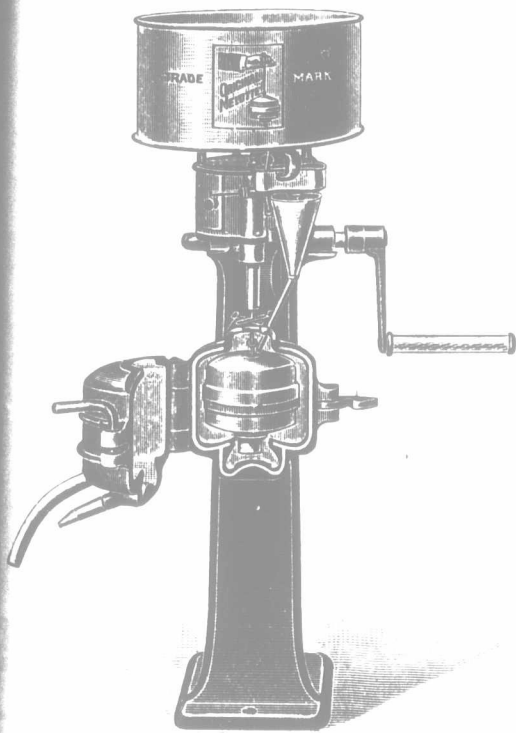
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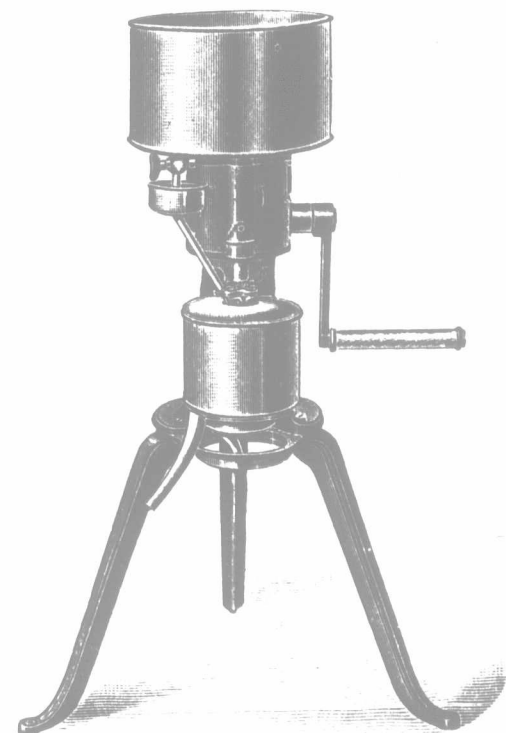
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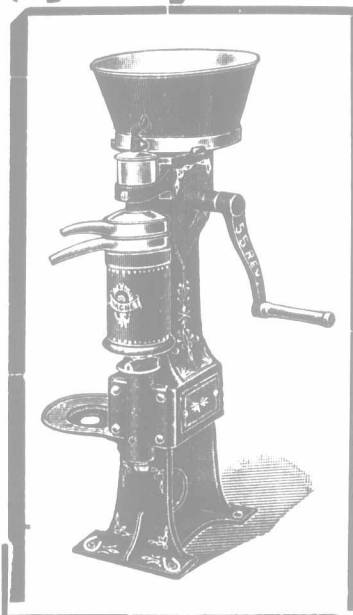
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The Farmer's Advocate and Home Magazine

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Established
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Vol. XLIV.

LONDON, ONTARIO, AUGUST 5, 1909

No. 880

EDITORIAL

Our most urgent study is the study of the soil, its nature, condition and use.

In proportion as we are able to control soil moisture, we become independent of the weather.

Experts say that habitual cooling of the night's milk by patrons, and provision of cool-curing rooms at the factories, are two improvements that will do more for the Canadian cheese industry than anything else that can be brought about. If with this we will combine more scrupulous cleanliness in every operation from milking to making, the business may be placed on a thoroughly secure and satisfactory basis, which no foreign competition can threaten.

By entirely independent processes of computation, "The Farmer's Advocate" and Dairy Commissioner Ruddick arrived at measurably approximate estimates of the profits to patrons from provision of cool-curing facilities at cheese factories. Mr. Ruddick calculates that the saving in shrinkage, premium in price and saving in cuts on cool-cured cheese would in three years wipe out the extra cost, together with the whole three years' expenses of the cool-curing room, leaving a handsome profit of nearly \$600 to the good.

Do not be as the beaver, whose instinct, implanted by the necessity of his forebears, led him to construct a dam across the corner of a three-story London office. Instinct is all very well for animals which have nothing better; man is supposed to possess reason. Inquire searchingly into the merits of old practices that have been followed as a matter of course. Be ever ready to try the new, on a small scale at first. Then, having weighed new and old methods carefully in the balance, putting them to the test of severe logic and patient experience, adapt that which is best, ever ready, however, to try it out afresh when a possible reason for so doing presents itself. Thus may we progress, without the risk of making costly mistakes.

"The best Canadian beef goes to England" is a stock explanation employed to apologize for the inferior cuts so often set before the foreign visitor at our tables. We have sometimes thought the excuse was rather overworked, although, undoubtedly, a great deal of poor cow beef and half-starved, ill-bred, runty stuff is consumed in Canada which would never stand a chance of getting its passage paid to the Old Country. If consumers and butchers were as discriminating as they might be there would be no market for the miserable unfattened stock. Nor should there be. Dairymen may have cows to dispose of that are not of approved type and inclination, while feeders of young stuff may not always be able to get the class of feeders they desire, but there is no adequate reason why even these less favored "critters" should be committed to the knife as soon as loosening hides betoken thrift. Bones, gristle and offal are inedible waste. It is the extra hundredweight of meat and fat on the frame that constitutes economy, and it can be put on without much grain. Pasture, with a little green feed and a very little mixed grains and oil cake in summer; in winter, corn silage, with clover or alfalfa hay, a relish of roots and a little of the same meal ration, combined with kindness, comfortable quarters and freedom from lice, will work the matter. Good beef can be produced without much grain.

As the chief benefits of cool-curing cheese accrue to the patrons, it is only fair that they should bear most of the cost. In co-operative joint-stock factories the problem is easy. In factories owned by an individual proprietor it is a little more complicated. It might be solved, however, by a trifling increase in the payment for manufacture, or by a fixed annual imbursement for three or four years out of the proceeds, until say, two-thirds or three-quarters of the cost were wiped out. The patrons could well afford to do this and yet be money ahead.

The proposed raising of the standard for matriculation from the High Schools and Collegiate Institutes of Ontario to Toronto University will not affect the standard of admission to the Ontario Agricultural College. A few years ago University matriculation was required for those who took the four-year B.S.A.-degree course, but it was found not to be the best basis, as town boys who remained at the Collegiates till they got matriculation made in many cases rather ordinary agricultural-college students, whereas sons of farmers with a fairly good English education, but no matriculation, by hard, persistent work, were at the end of the second year better all-round men than the other class. The College authorities, therefore, decided to make the first two years' work very thorough, and allow none to go forward to the third year unless they made a fifty per cent. average on all subjects, and sixty per cent. on English. This cut out probably half of the students in the second year, and at least 75 per cent. of the Second Year men return to the farms. Those who reach the requirements for third year have, therefore, attained a reasonably high standard.

Young man, the best investment you will ever make will be money spent upon the development and enrichment of your brain. The power and amplitude for service that education gives will enable you soon to overtake the companion who was over-eager to commence earning money at once. It is well to begin saving soon, for it keeps a young man busy to get a start in life and prepare a home by the time he is ready to marry. Nevertheless, important as this is, it is much more important to equip yourself with a well-stored proficient mind. Savings may be accumulated and lost; education you have as a permanent asset. Money, possessed by an untutored man, whose heart becomes set upon it, corrodes and debases character. Education should and generally does build character, a more priceless possession than intellect. Acquire a competence if you can, but be sure and obtain education—the kind that will broaden your outlook, deepen your understanding, ennoble your aspirations, modify your idiosyncrasies, polish your manners, and strengthen your principles, besides helping you to make a success of your particular sphere of service. That it may do all these things, the course chosen should be selected not with a view to culture only. It should relate in considerable degree to the occupation you intend to follow, for a man grounded in the principles of his lifework has commenced a line of education likely to be pursued to the end of life. If agriculture is your prospective occupation—and there is none better—choose an agricultural college course. These institutions have sent out their calendars for the coming terms. Send for one; read it, and let no ordinary sacrifice of convenience, pleasure or finances stand in the way of taking at least a two-year course. Twenty-five years hence you will look back and say it was well.

Breeding Age of Heifers.

The tendency of the times to breed dairy heifers to calve at two years, or younger, is of doubtful expediency. The strain of motherhood upon so young an animal must necessarily tax her vitality, hinder her natural growth and sap her constitution to a considerable extent. Even though this effect may not show up seriously in one generation, it is reasonable to expect that if continued from generation to generation the natural tendency will be to reduce the size and weaken the constitution of the herd in which the policy is practiced. While size may not be considered the most important characteristic in dairy cows or other stock, it is certainly desirable to the extent of affording plenty of room for healthy action of heart and lungs, and capacity of stomach to work up sufficient food to keep the animal vigorous and capable of giving a profitable return in milk or meat for the food consumed. The idea prevails that heifers bred to calve at or under two years will make better and more persistent milkers than those producing their first calves at two and a half to three years; that at the latter age they become disposed to fatten unduly for dairy purposes, but this is a theory, the truth of which has not, to our knowledge, been established, while there is danger of early breeding becoming a fad that will tend to undermining the constitution of a herd or a breed. There is little room to doubt that in the course of time, by unduly early breeding, continued from generation to generation, the largest breed of cattle could be reduced almost to the size of goats. There is little profit in milking heifers at or under two years old, as the quantity given at such age is, as a rule, comparatively small, and they need to be fed extra to keep them in decent condition. While the desire to increase the herd rapidly is natural, it may be done at the expense of its vitality, and the wisdom of breeding heifers to calve when under two years old, or, indeed, at two years, is doubtful. The age of two and a half years is a happy medium, and may well be adopted as the standard.

The theory that liberal feeding of heifers injuriously affects their milking qualities, is another, the soundness of which is very doubtful. Provided the feed given is not of a heating or fattening tendency, we are of opinion that there will be gain, from the standpoint of milk production, in keeping the heifers in vigorous, growing condition from the start, thus building up a strong constitution. Though they may take on a somewhat coarse appearance as heifers, it will be found that the processes of motherhood and milking will in a few weeks bring out the desirable feminine appearance and elasticity of hide handling, and it will be a strong femininity instead of the weak and delicate one forced by abnormally early maternity. The mother must possess strength and vitality if the offspring is to be strong and well developed. Doubtful theories and absurd fads, propounded by glib speakers and fertile writers, and followed by self-constituted, so-called, expert judges, have done much to injure the dairy breeds of cattle, and it is quite time that common sense had its innings in the conduct of the breeding, feeding and management of this most important class of farm stock.

It is not yet too late to try an experimental seeding of alfalfa on thoroughly clean, well-prepared rich land. While August seeding can scarcely be called a demonstrated success in this latitude, a few have tried it with satisfactory results. We would not counsel the sowing of an extensive area at this season, but there is nothing like a little experimenting to add interest to farm work.

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

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WINNIPEG, MAN.

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is published every Thursday.

It is impartial and independent of all cliques or parties, handsomely
illustrated with original engravings, and furnishes the most
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LONDON, CANADA.

Curd for the Patrons.

About the rarest place to find a piece of good
cheese is the table of a cheese-factory patron.
There will often be good curd, cut up on a plate,
and offered as cheese, but the rich, nutty, ripe,
silky-textured article is seldom found. Yet this
is the only kind of cheese that is fit to eat.
Cheddar cheese is not really made until it has
cured a few months after being taken from the
hoops. Certain bacterio-chemical changes take
place which break down the insoluble curd into
more soluble and more digestible forms which
the system can assimilate. Go into the factory curd-
ing-room, ask for a piece of ripe cheese, and the
maker will generally bring out the real article. He
could keep a stock of such on hand for his pa-
trons if they asked for it, but most of them want
curd, because they think it is more fresh and
wholesome, wherein they make a great mistake,
and do their stomachs grave injustice. It is not
necessary to leave the cheese until there is dan-
ger of its walking away, but if it is to be eaten
at all, it should be allowed to "break down,"
else we might almost as well consume India rub-
ber. Those who object to the decided flavor of
cured cheese often do so from a misconception;
they guard their taste, thinking it is protecting
their stomachs from something unwholesome,
whereas it leads them to put into their stomachs
one of the most unwholesome and indigestible
articles ever set on a table. Curd in quantity
has been known to kill a dog, and much of our
so-called cheese is only a few degrees removed
from curd. A taste for ripe cheese is easily de-
veloped, and should be cultivated for the good
of one's stomach.

Overripe or sour milk accepted at the cheese
factory not only gives trouble to the maker, but
reduces the quality of the cheese made and seri-
ously reduces the yield per thousand pounds of
milk.

Sandy Fraser Goes to Church.

I hae been at the kirk again the day. First
thing I ken I wull hae the habit, gin the Saw-
baths keep fine like. Oor meenister, too, is an
unco' straight-talkin', hard-hittin' chap, as I
was tellin' ye, an' it's somethin' o' a recreation
tae gang tae a kirk where ye will hear yer nee-
bor's faults an' failins' laid bare, an' them no
able to pit in a word for themselves. Mony's
the time, though, I'll be thinkin', that they can-
na' be takin' a' the preacher's words to them-
selves, but will be passin' them on to a frien',
wha they think is mair in need o' reformin' than
themselves. Well, ye wull be wantin' tae hear
what like was the sermon, so I will begin at the
beginnin' and gie ye the text. When I was a wee
laddie ma mither wouldna' gie me ony dinner, gin
I couldna' tell the text o' the sermon aifter I
had been tae kirk; so ye'll ken I didna' forget
mair than once, an' the habit stands me weel the
day, noo that I hae takin' tae reportin' the say-
ins' o' the preachers.

Weel, the text was this: "What is your
life?" "Noo," says the preacher, "when I ask
ye a question like yon, I ken I'll hae just about
as mony different answers as there are men an'
women inside these four walls. For instance,
gin I ask that mon yonner, 'What is yer life?'
what wull he say, supposin' he tells the truth?
He wull say, 'Ma life is a life o' money-makin';
I wad trade off character, health an' friends for
money. I dinna ken just what I'm gainin' to
dae wi' it a', for it hurts me sair tae spend ony
o' it, an' as for leavin' it tae ma bairns, I ken
weel it wad be naethin' less than the ruination
o' them; but, nevertheless, it's money I want,
an' money I will hae.' And then I ask this mon
doon here what is his life, an' what does he
say? 'Ma life is a life o' hard work. Frae
daylight till dark I dinna ken onything else. They
had me oot plantin' tatoes a few days aifter I
was born, an' wi' ane thing an' anither, I hae
been at it ever since. I dinna tak' ony time
tae read, an' I tak' juist as little tae think. I
doot I'll dee wi' ma nose tae the grindstane, an'
turnin' it masel'."

"The next mon I was thinkin' o' askin' has
gaun to sleep. It's no' a bad way o' pittin' in
the time in the kirk, an' does a mon a muckle
sight mair guid than listenin' tae the havers o'
some o' oor pulpit-smashers; but since oor frien'
canna' speak for himsel', I will hae to tell ye
what his life is. It's a life o' laziness. He
spends mair time figurin' on hoo tae get oot o'
daein' a job than it wad take tae dae it twice.
He's aye complainin' o' the hard row he has tae
hoe, an' I'm dootin' that, when at last he gets
tae the end o' it, an' his life's wark comes tae
be inspected, there willna' be muckle to show for
it a' but a hantel o' weeds."

"An' noo, the next mon I hae in mind is here
fernist me a' richt, but I will na' be pointin'
him oot, for fear I will na' be pointin' juist
straight, an' a lot mair o' ye might be takin'
my remarks tae yersels. Onyway, he's the mon
wha's a wee bit crookit, or, in plain English, ye
wad call it dishonesty, I suppose. It's no' lang
since I had a wee word tae say about this same
lad afore, but as he will be fittin' intae ma text
again, I maun mak' use o' him. He's the mon
wha believes in gettin' through this life as easy
as possible, even gin he has to mak' ithers pay
his way; an' he doesna' care muckle, although
his character an' reputation are lost on the way.
A' he sees at the end o' the trip is a hole in the
ground, so wha can blame him, gin he travels at
the expense o' the rest o' us?"

"Anither mon I'm gainin' tae point oot tae
ye, an' I'll be done wi' ma personalities, which na
doot mak' ye uncomfortable, an' keep ye frae
gaein' tae sleep. That's the mon that's standin'
in this verra pulpit, maybe; it's for yersels tae
judge. But the meenister an' the impractical
mon hae sic a guid chance o' walkin' in the same
boots that I'm dootin' at times but maybe I'm
daein' a lot o' preachin' an' mighty little prac-
ticin'. What is yer life? is a question that
comes tae ilka ane o' us, an' gin we are gainin'
tae answer it in the way we should, we maun
mak' richt livin' the first coseideration, an' then
tillin' ithers hoo tae live will hae its place."

"An' noo, the question o' what is oor life-
havin' been answered for some o' us, it is na mair
than richt that we should want tae ken juist
what that life should be. Gin we are on the
wrag track, where is the richt one, an' forbye,
how can we get on it? Noo, I'm thinkin' the
trouble wi' maist o' us is juist this: we dinna
look far enough ahead tae see what the result o'
oor action will be. We ken what this or that
decision will dae for us the noo, an' hoo muckle
we may gain by it, but we dinna' stap, as a rule,
an' coseider what effect it may hae on oor
lives. It's verra certain we were na' pit on this
earth juist for the pleasure o' the experience, an'
to see hoo muckle o' the gold and siller an' guid
farmin' land we can dispose of in oor will at the
end o' it a'. Gin I were tae mak' a guess at
what oor life is, or at what it was intended tae

be, I wad say that it lukes to me as though it
was juist for us to hae the chance o' bein' a wee
bit better men an' women than oor faithers an'
mither's were before us, an' for pittin' as muckle
a distance as possible between us and the mon-
keys that they tell us were oor ancestors a few
thousand years back. The struggle for a livin'
is a' richt, but its true purpose is to develop a
strong character at the same time that it sup-
plies us with the food an' shelter that maks' it
possible for us tae gae on livin' and gettin' the
experience that seems tae be sae plentiful on this
auld airth. So, gin this is true, and we hae
found oot the real meaning o' life, what can we
say for the lives o' the men we hae had under
coseideration this morning? They hae missed
the real object o' livin', naething mair nor less.
What we need to get oot o' this world is some-
thing that will stay wi' us, an' help us along on
the next stage o' the trip, whatever like that may
be. Gin oor row be a hard one, we may not hae
ower muckle o' a harvest, but we ken weel that
we hae developed a guid bit o' muscle if we did
na' neglect the hoein'. We a' ken there isna'
ony sense tae this life in itself, wi' it's warkin'
an' scratchin', an' livin' an' deein', an' we a'
ken that it's what we are, an' not what we hae,
that is gaein' to count in the end; but in a'
rush an' hurry we are unco' apt to forget it, an'
get to chasin' aifter the dollar, or whatever oor
particular weakness may be, wi' the rest o' them.
So this is why I will be takin' up yer time this
mornin' in joggin' yer memory, an' askin' ye,
'What is yer life?'

He's a gey quare kin' o' a meenister, this mon
o' oors, an' the auld wumman says to me on the
way hame, "Sandy," says she, "dae ye think
he's sound?" "Weel," says I, "I dinna' juist
ken, but gin he doesna' tak' us tae the next
world by the auld road, I'm thinkin' the ane he
is hewin' oot will no' be so bad for some o' us
as ye're thinkin'. Juist hide a wee an' gie him
a chance."
SANDY FRASER.

HORSES

Action, Size and Strength.

Following the judging of heavy-draft horses at
our fairs, one is inclined sometimes to think that
action—trotting action, particularly—is over-
emphasized. That a draft horse should be
straight, clean-cut and energetic in action, goes
without saying. The more nearly true the legs
are carried forward on the move, the less energy
is expended in producing the forward motion, and
the less will be the wear on the limbs and feet.
But over-emphasis of one point has a tendency to
induce under-estimation of others.

If action is considered solely as such, and is
not considered in its relation to the other points
of excellence in drafters, notably conformation
and weight, it may happen that the true purpose
of this class of horse is overlooked in the desire
to pander to popular fancy regarding "flashi-
ness" on the move. Draft horses are intended
to work at the walk. Their business in life is
to shift weights and pull heavy loads. The
weight of the load one or a pair of them can haul
and keep on hauling day in and day out, is the
measure, in a practical way, of the value of the
animals. They want conformation that will give
them strength for a heavy pull, and weight suffi-
cient to move loads at the least expenditure of
physical effort, as much as they need straight-go-
ing legs to carry them forward, with the least
expenditure of energy.

Bone and foot quality cannot be given too
much consideration in draft-horse judging, yet it
is a fact that certain of the draft breeds that are
not regarded as being as nearly perfect in these
points as others are distinguished in service for
wearing quality and general draft usefulness
equal to the breeds rated by judging authorities
as better equipped for lasting work, in so far as
sound legs and feet can make them. Instances
where this has been true, in fact, will readily oc-
cur, and teaches what some draft horsemen re-
quire to learn, that conformation, along the line
designed to give a horse the greatest strength
and hauling-power, is very closely related to the
animal's usefulness to the man who works him,
probably more so than any other point.

Some interesting data have been gathered by
the Minnesota Experiment Station, relative to
the cost of keeping farm horses, and the average
work performed by each animal per year. It was
found that the average cost per year of keeping
a horse was from \$75 to \$90. The average
day's work varied from 3.08 hours in a mixed-
farming community, to 3.3 hours on the large
farms in the Red River Valley. It is not gener-
ally supposed by farmers that their horses cost
so much per year for keep, nor that they are
used so little on the average. It is even more
surprising that the average hours of horse labor
should be less on diversified farms than on the
specialized farms.

Cost of Three-year-old Colt.

The cost of raising a colt, either of the heavy breeds or the light-legged breeds, up to three years old, depends on the market price of hay and feed, and whether the animal is a male or a female, etc., etc. I would calculate it as follows:

Up to weaning time—		
Service fee, \$10; difference in amount of work done by dam up to weaning time, \$10.....		\$20.00
First winter's keep—		
210 days, hay at \$10 per ton.....	\$ 6.40	
About 4 lbs. of oats a day, at 40c. per bushel	10.00	16.40
Second winter's keep—		
210 days, hay at \$10.....	16.80	
Bran, at \$1.20 per cwt.	10.50	
Oats, at 40c. per bushel	10.50	37.80
Third winter's keep, same as second		37.80
Two summers' keep at pasture.....		20.00
Shoeing		3.00
Total		\$135.00
In the case of a male there must be added for castration		5.00
Making the total.....		\$140.00

Nothing is put down for attention, stabling, breaking. The colt of the heavy breed should be credited with at least \$20 for work done after he is two years old, thus reducing the cost to \$115 to \$120, while the average selling price may be put down at \$150, leaving a profit of from \$30 to \$35, provided that there has been no sickness, no accidents, followed by blemishes, and that he is sound and a good horse.

If the colt be of the light-legged breeds he can scarcely be sold at three years old, but his keep till he is four years old will be compensated by his work. Now, what will then be the value of that horse? That can hardly be determined. He might be worth \$125 or \$250, according to conformation, style, training, disposition, etc., etc. However, the average selling price may be put down at \$150, leaving a margin of from \$10 to \$15 for profit.

In this section of the country farmers calculate differently. In their estimation the cost of raising a three-year-old colt does not exceed \$100, as follows: Up to weaning time, \$20; first winter's keep, \$11.40; two summers at pasture, \$20; hay fed during two winters, \$40; shoeing, \$3; castration and medicines, \$6; total, \$100. From three to four years old, keep is compensated by work. Average selling price at four years old, \$140, leaving a profit of \$40. Everything is supposed to pass off in the best way, but, as everybody knows, it is not so in at least five cases out of ten. Quebec Co., Que. J. A. COUTURE.

Raising Draft Colts.

Being a farmer and breeder of draft horses, I beg to submit cost of raising a heavy colt up to three years. My estimate is not meant to include pure-breeds, but good commercial horses, such as are suitable for city and other heavy work. The mare should be sound, good tempered, and built on approved draft lines, weighing not less than 1,500 or 1,600 pounds; \$250.00 is about her value from 4 to 9 years old.

Interest on value of mare	\$15.00
Service fee of stallion	15.00
Pasture, 6 months, at \$1.50.....	9.00
	\$39.00
Oats for foal first winter	\$15.20
Hay for foal first winter	9.00
Bran for foal first winter	3.00
	\$27.20
Total cost of colt at age of one year.....	\$66.20
Cost from one to two years—	
Grass	\$ 7.50
Oats	7.60
Hay	9.00
Fodder	5.00
Total	\$29.10
Cost from two to three years—	
Grass	\$ 9.00
Oats	15.20
Hay and fodder	14.00
Total	\$38.20

At the age of three years the colt has cost \$133.50. A certain amount of feed he has consumed has been left on the farm to increase its fertility, the amount being equal to the cost of his care. And, again, a kind working mare will earn something while carrying the foal, and also while nursing him, an amount amply sufficient to meet the dam's depreciation in value during the one-year period. How much is he worth at three years? If a gelding he will readily sell for \$180.

if bred and fed in the way indicated; if a mare, she will just as readily sell for \$200—either one without being broken. Allowing half the produce to be geldings and half to be mares, we have an average price of \$190, or a profit of \$56.50 per colt.

With reference to light horses, my opinion would likely have little weight, as I am not raising that class, nor am I raising export steers. My cattle are mostly Shorthorns, and are usually sold when slightly more than a year old. But if I had choice of raising under contract the colt or the steer, leaving out of consideration service fee for colt, at the same price, I would certainly let the other fellow raise the colt. A. J. DOLSEN. Kent Co., Ont.

Stallion Law of Wisconsin.

The stallion law of the State of Wisconsin, as recently amended, is more advanced than similar laws in any other part of the United States. It provides for the separation of grade stallions from the scrubs or mongrels with which they were formerly classed, and makes fines or imprisonment the penalty for breaking the law in the matter of grading or licensing. No stallion-owner is permitted to use or offer for sale any stallion before he has obtained a license for it, and registered the license. Certificates have been provided for stallions that have neither sire nor dam of pure breeding. Such horses will not hereafter be licensed as "grades," but will be given certificates as "mongrel" or "scrub" stallions, and the certificate will state that the stallion is of "mongrel breeding," and is, therefore, not eligible to registration in any recognized studbook, or if a stallion is from pure-bred sire and dam the registration board may refuse to grant "pure-bred" or even "grade" license certificates if the animal is not up to the required standard as regards size, type and soundness. The law aims to drive scrub and grade stallions out of use in the State, and to make it as difficult as possible for farmers to breed their mares to low-quality pure-bred horses.

Good Colts Most Profitable.

According to my summing-up, a farmer can raise a colt of the heavy breeds, up to the first day of seeding, three years old, broken to harness, and in flesh for work or sale, for \$70, not counting cost of service.

I have not had as much experience in light horses, but, taking all things into consideration, I think it costs a little more to raise a good light colt than a heavy one. The light colt will not eat as much feed, but does not come to work as soon, and takes more handling in breaking. I consider the average selling price should be, for a three-year-old colt, with some training, so as to be mannerly in harness or halter, \$150; profit for heavy colt, \$80; profit for light colt, \$70. It costs as much to raise a poor mongrel as it does to raise a good pure-bred colt, so far as feed and handling are concerned. The farmer that aims to raise really good horses, and sells them at \$200 to \$250 when three years old, has a large profit; while the farmer that aims any old way, sells from \$75 to \$125, and has much smaller profits, if any. Wellington Co., Ont. NEIL E. MCKINNON.

LIVE STOCK.

The Bacon-production Question.

Editor "The Farmer's Advocate":

I have been following the discussion of the pork-production problem in the columns of "The Farmer's Advocate" for some time, and feel that many of your correspondents and the majority of your readers are rather too pessimistic in their views upon this subject. I am inclined to think that many of our farmers come to their conclusions as to probable losses, or, at least, probable lack of profits, along this line of live-stock exploitation after too casual or too careless consideration of facts as to cost of raw material, price of finished product, and value of by-products. Let me illustrate my meaning by reproducing as nearly as possible a conversation between a farmer and the writer some days ago:

Writer.—Well, Mr. S., how did you make out with that bunch of August pigs I saw with you last October?

Mr. S.—Don't talk to me about pigs. I am sure I lost a hundred dollars on those pigs.

Writer.—Why, that is too bad. Let me see, you had thirty of them, had you not, when I was there?

Mr. S.—Yes, around thirty, and a good healthy lot they were.

Writer.—Three dollars' loss per pig looks bad. How did you feed them?

Mr. S.—Oh, I fed them well—too well to make any money. You know that six-acre field of barley; well, they got it all. Then, I am sure they got 200 bushels of oats, and I bought four tons of shorts, and that's a hundred dollars, almost.

Writer.—That looks like a lot of feed. What did you get for them?

Mr. S.—Oh, I sold them well; I got \$7.80 at the cars.

Writer.—What did that amount to?

Mr. S.—I got \$418 for twenty-nine pigs.

Writer.—Was that the whole lot?

Mr. S.—No, I kept one as a sow, and killed two for pork at home.

Writer.—Were they as good as the average?

Mr. S.—Oh, yes; I guess, about the same.

Writer.—They would, therefore, be worth about \$45, or the whole lot of 32 was worth about \$463.

Mr. S.—Yes, I guess that is about right.

Writer.—Let us figure the cost. Did your barley thresh 30 bushels to the acre?

Mr. S.—Just about it, I guess.

Writer.—That is 180 bushels, or 8,640 pounds; 200 bushels oats is 6,800 pounds, and four tons shorts 8,000 pounds. That is 23,440 pounds grain or meal. Did you feed any roots, or anything?

Mr. S.—Well, they got some small potatoes and apples, a few pumpkins, and a little bit of rape in the fall.

Writer.—What would that stuff be worth?

Mr. S.—Oh, nothing much.

Writer.—Would \$25 pay for it?

Mr. S.—Oh, yes, more than pay for it.

Writer.—Well, how do you figure out your cost?

Mr. S.—Well, 200 bushels barley, that is \$130;



Flair and Foal.

Thoroughbred. Sold at auction in England last month, for \$78,500.

200 bushels oats, that is \$120; and four tons shorts, that is \$100; \$25 for pasture, etc., and four sows' keep, that is \$80, for I reckon it costs me \$20 to keep a sow a year. That is—?

Writer.—That is \$455.
Mr. S.—Well, I got \$418, so you see I lost lots of money.

Writer.—You forgot the three pigs, you kept, and you charged 20 bushels extra barley, and you charged present market prices for your grain. I would figure it out this way: Your sows cost, say, \$10 for these litters. They gave you litters this spring, I suppose?

Mr. S.—Yes.
Writer.—Well, sows, \$40; barley, 180 bushels, at 55 cents, \$99; oats, 200 bushels, at 50 cents, \$100; shorts, 4 tons, at \$24, \$96; potatoes, etc., \$25; total, \$360. You got \$463, or the equivalent, which makes \$103 profit.

Mr. S.—But barley is worth 65 cents, and oats 60 cents a bushel.
Writer.—They were not those prices in the fall, when you would probably have sold. Besides, you would have had to clean, bag and haul the grain 8 miles—that is a consideration, is it not?

Mr. S.—Well, I suppose one might look at it in that way.

Mr. S. still has his four sows, and is not quite so pessimistic as he was. I wonder how many farmers there are in this Canada of ours who figure it the same way as Mr. S.? How many use round numbers and top prices when figuring the cost, but neglect little odds and ends like a pig killed or a sow kept, when figuring the returns? And another item very seldom considered in the returns is the manure, than which no better fertilizer can be found.

From a number of years' experience with a herd ranging from 100 to 400 pigs of various breeds, under most adverse conditions as to housing, and most expensive as to care and feed, I am of the opinion that, taken one year with another, the pig business can be made to yield good profits. This I say, taking into consideration the high prices ruling at present, and likely to maintain for another year at least, for all feedstuffs, and not overlooking the possible drop in prices for the finished product.

One great aim must, however, be kept constantly in view; that is, lower the cost of production. The farmer cannot control the selling price of the hog. That, like prices for most other commodities, is controlled entirely or very largely by supply and demand. The cost of production is likewise influenced to a considerable extent by the same great law, in so far as it affects the prices of feedstuffs, but the skill and knowledge of the breeder and feeder enter at this point, and may very easily make a difference of one half in the cost of production, with the same class of swine and the same prices for feeds. This may seem to some a rather too great difference in cost to attribute to skill and knowledge, but my experience would seem to indicate that it is probably underestimated, rather than overstated.

I would suggest, as lines along which improvement or effort at lowering cost might be made:

1. Selection of sire and dam.
2. Raising young sows.
3. Feeding old sows.
4. Care and management of young pigs.
5. Economy in feeding or finishing off.
6. Winter feeding-off.

Selection of Breeding Stock.—A very great difference exists in strains or families of different breeds, as well as among cross-breeds, as to fecundity or size of litters. Care should be taken to keep sows from large litters. No sow gives a very large litter every time, but the average should be good. The same peculiarity should be in evidence in the dam of the sire selected. Another point, and one very commonly neglected, is to see that families from which selections are made are quick-growing, easy-feeding and early-maturing animals.

There is no doubt that attention to these points means a difference of from 20 to 30 per cent. between well-selected and poorly-selected breeding stock—say, 25 per cent.

Raising Young Sows and Boars.—The breeding stock once selected, may usually be fed as are feeding pigs until four or five months old. After this age, they should be put on a special ration; that is, a ration likely to induce growth, roominess and bone development, rather than smoothness and trimness. In this way the chances of the sow becoming a good dam and a prolific breeder are greatly increased. This means an improvement of, say, 5 per cent.

Feeding Old Sows.—Health and thrift of the stock, number and vigor of the young, and economy of the feeding operations, must be the aim in feeding old sows. After five years' experimenting with 40 to 60 sows annually, the writer considers the following plan the most economical, and the most satisfactory as to results. The sows should be housed in well-ventilated quarters. Small cabins outside do very well. They should be fed outdoors. Their food should consist

largely of rough and succulent feeds, as clover, hay and roots. The meal should be light in character, and rather sparing in quantity, especially early in the winter. To illustrate, take this feeding record of a bunch of sows at the Experimental Farm in 1907-08.

FEED REPORT.

Amount of Feed Consumed by 29 Brood Sows from December 1st, 1907, up to March 14th, 1908.

Week ending.	Roots.	Bran.	Shorts	Clover hay.
	lbs.	lbs.	lbs.	lbs.
Dec. 7.....	2,600	300		50
Dec. 14.....	2,600	300		50
Dec. 21.....	2,650	250		100
Dec. 28.....	2,650	250		100
Jan. 4.....	2,700	200		100
Jan. 11.....	2,700	200		100
Jan. 18.....	2,700	200		100
Jan. 25.....	2,100	140	280	150
Feb. 1.....	2,450	150	300	150
Feb. 8.....	2,450	238	476	150
Feb. 15.....	2,450	238	476	100
Feb. 22.....	2,400	300	575	100
Feb. 29.....	2,250	336	672	100
Mar. 7.....	2,200	350	700	100
Mar. 14.....	2,200	336	672	100
	37,100	3,788	4,151	1,550

Cost to feed 29 brood sows for 105 days:
37,100 lbs. roots, at \$2 per ton.....\$ 37.10
3,788 lbs. bran, at \$22 per ton..... 41.66
4,151 lbs. shorts, at \$25 per ton..... 51.81
1,550 lbs. hay, at \$7 per ton..... 5.42
\$135.99

105 days, cost per pig per diem, 4.46 cents.
First 7 weeks, or 49 days, cost per diem, 2.77 cents.

As indicated, these sows cost 4.46 cents a day to feed, or \$4.68 for the winter, each. This experience was repeated in 1908-9, with quite as satisfactory results, as the following figures will show:

COST OF WINTERING 27 BROOD SOWS—WINTER 1908-1909.

Periods.	No. of days.	Bran.	Shorts.	Roots.	Hay.	Total cost of feed.	Cost per pig.	Cost per day.
		lbs.	lbs.	lbs.	lbs.	\$	\$	c.
Nov. 1 to Nov. 30, 1908.....	30	1,400	160	10,420	300	25.35	.93	3.1
Nov. 30 to Dec. 31, 1908.....	31	1,200	700	11,020	650	32.82	1.21	3.9
Dec. 31, '08, to Jan. 31, '09.....	31	1,350	710	11,020	650	36.33	1.34	4.3
Jan. 31 to Feb. 28, 1909.....	28	1,210	605	8,400	600	30.76	1.13	4.0
Feb. 28 to March 13, 1909.....	13	800	100	4,200	300	18.65	.69	5.3

**Refuse roots, tops, etc. valued at \$5.00. †Clover
Total number of pigs, 133; Total cost of feed, \$143.91; average cost per pig, \$5.33;
average cost per pig per day, 4 cents.

Lowness of cost is, however, not the only consideration, and here the results of the feeding system outlined were even more satisfactory, since in 70 or 80 sows so fed in the two years, not

more than one or two litters were unsatisfactory in either quality or number. It is possible, in this way, to save from 10 to 20 per cent. in the cost of the young dropped. That is, by selection and care, along with judicious feeding of the breeding stock, one may effect a saving of from 25 to 40 per cent. before even starting to feed the young ones.

Care and Management of Young Pigs.—The youngsters from birth must have an abundance of pure air, dry quarters, and just sufficient food of the right kind. Very seldom, indeed, are all these requirements fulfilled on our Canadian farms. Dampness and foul air are the most commonly observable defects. To overcome these, better ventilation and more hygienically-constructed piggeries are necessary. This is, however, a question in itself, and one which I should like to take up at some future time in detail. The feed of the youngsters must necessarily be through the mother for a couple of weeks. Any overfeeding or unsuitable food is fatal at this period. Cooling food, rich in milk-producing elements, is the right thing. Skim milk, cooked turnips or raw mangels, bran, shorts, oil-cake meal and oats are the best feeds. Teaching the youngsters to eat at an early age is important. Giving them the right food in proper condition is of more importance still. Cleanliness is necessary; a sufficiency of food, and no more, is imperative. Skim milk or whey, always sweet, or always sour, with a little feed flour added, does well. Lacking whey or skim milk, then oat chop, with hulls sifted out, coarse feed flour, and oil-cake meal, equal parts, in a thin gruel, is about right. Getting them out on the land early in the game is highly advisable. Some succulent feed when quite young is beneficial. Pulped roots, clover or rape, are all suitable. A certain amount of pasture or green feed is always profitable. Overdoing with these is not economical at any stage.

Finishing Off.—The final period should begin while the pigs are still young. They should, in fact, always be in good condition. To attempt to economize by feeding on green feed exclusively, or almost entirely, is mistaken economy. Keep pigs thrifty and doing. In summer, meal, green feed, shade, and an abundance of water, with only a very small run, are the best conditions. In autumn, replace the green feed with pulped sugar beets and mangels or cooked potatoes, turnips or pumpkins, about equal weights of meal and roots fed mixed and in a thick slop. Do not cook meal. Feed warm in cold weather, if convenient. Feed meal mixtures of medium weight. Too open and light makes paunchy pigs; too close and heavy means indigestion. Feed regularly; feed a uniform ration as to quality and quantity. Feed at least three times a day. Keep pigs dry, cool, and well watered, in summer. Keep air pure, floor dry, bed clean, and pigs active in fall and winter. Good feeding and good care means all of 50 per cent. difference in cost of gains.

To summarize, I am certain that pigs ready for the market, that have been raised in the right way, fed off with the right feeds, under proper conditions, and which are the get of properly-selected and economically fed breeding stock, are frequently put on the block at half the total cost of other similar-looking pigs that have been raised in a haphazard way from poorly-selected breeding stock, and then fed, as is too often the case, on too expensive foods, badly proportioned in mixing, and badly handed out to the pigs under bad conditions as to housing, water and air. This being the case, as I am sure not a few will admit possible, and too frequently true, it is in the writer's opinion, not the pig, nor the country, nor the prices for feeds and product, that are to blame, but rather the too great carelessness of a large number of our farmers who fail to give this question the attention and study that are absolutely necessary to insure success, no matter what the conditions.

There is another feature of the pig-feeding problem that in my opinion accounts in no small measure for the smallness of our pork product. I am inclined to think that not a few of our Canadian farmers go out of the pig business largely because they do not like it. This would explain in large measure the promptness with which the supply falls off, when to the loose figurer or casual observer the margin of profit looks small.

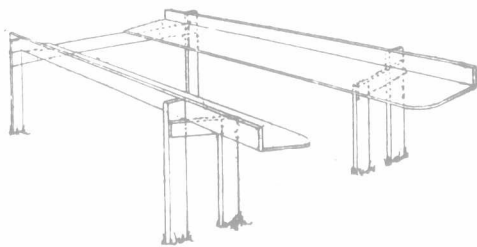
Refraining is not always profitable, but we keep at it. Dairying is too often, under existing conditions, not very profitable, if all the cost be counted, but we keep at it. Not so with the pig. We drop him whenever anybody gets up and says he does not pay. The average stockman is inclined to view with pitying eye his brother interested in swine. The hired man does not like the job of feeding or cleaning out the pens. The ladies, as a rule, do not admire them, and so the poor pig industry is "up against it too fair" if the slang phrase may be admitted.

J. H. GRISDALE.

Central Experimental Farm.

A Service Stall.

Some time ago a subscriber inquired if we could publish instructions for the building of a breeding stall, or stocks, to be used in breeding heifers when a heavy sire is in service. We reproduce in this issue a description and sketch of a device for the purpose, which was recently published in the Jersey Bulletin, and which appears to be practicable and inexpensive. The specifications are as follows:



THE WARNER SERVICE STALL.

In building a stall, one should select a level space, set two posts 36 inches apart; to the posts spike a piece of 6-inch plank, the top edge of which should be about 28 inches above the ground. Four feet six inches back of these posts, set four more—two on either side, as shown in drawing. The short or inside posts should be about 16 inches high. Spike a piece of 2 x 4 from the top of the short post to the longer post by its side—slanting the 2 x 4 a little toward the inside of space where the cow is to stand. The space between the short posts should be 30 inches.

Place a 9-inch plank flatways, the front end resting on the stringer nailed across the front posts, the back end resting on the 2 x 4 that is nailed on the hind posts. This plank should project over the hind post about six inches, also about three inches over the top of the posts toward the inside. Nail fast. Then place an 8-inch plank lengthwise, set upon edge inside of the long posts, and nail to same. This is to prevent the bulls' feet from slipping off the outside edge of the plank which his front feet rest on when serving. The space where the cow stands should be 18 inches wide at the front end, and 24 inches at the back end, opposite the hind posts.

We always use this stall when breeding a cow. Its value will become more apparent when using a heavy bull on a small cow or heifer. When we were breeding Holsteins we often used a bull weighing 2,400 pounds to a yearling heifer, without the slightest injury to either.

I neglected to mention that, should a cow after being placed in the stall, stand too high for the bull, a little dirt can be taken out where her hind feet stand, or, if too low, fill in.

Alfalfa Pasture for Hogs.

One of the most extensive and successful swine-raisers in Kansas tells the author this: "Twenty-five years of pasturing hogs of all ages on alfalfa has proven conclusively to me that a fourth to a half grain ration, while they are on such pasture, will produce greater growth per day than when in dry lots on full feeds of corn. Hogs will maintain a reasonable growth, but not fatten much, on alfalfa pasture alone; I believe it profitable to feed them some grain while running on green alfalfa. If it is desired to full-feed hogs, they will make a rapid fattening growth from increasing the grain ration while on pasture, and with the full grain ration the meat will be nearly as firm as that of hogs kept in a dry lot, where grain alone has been fed. I find no distinction on the market between alfalfa-fed swine and those purely grain-fed, and they sell price and price alike. The general health of the alfalfa-fed hogs is equal to that of those maintained on any other feed, and they are prolific."

As to the amount of pasturage or the number of hogs alfalfa will carry per acre without injury to the crop, the estimates given by farmers vary considerably, depending on the kind of soil, the fertility of the land, and the size of the hogs pastured. The following, however, is a safe estimate, as given by conservative men who have had much experience. Upland of fair average fertility will support from eight to ten head of the 50- to 125-pound hogs. There are fields that have supported 25 head per acre through the season for a number of years, and are still in good condition; and there are other fields that will not furnish pasture for more than five head per acre, but these are extremes. When a field is only used for pasture it is better to divide it into several lots and move the hogs from one to the other as occasion requires. [From Coburn's Swine in America.]

Bovine Abortion.

The British Board of Agriculture in 1905 appointed a committee of veterinary experts to inquire by means of experimental investigation, or otherwise, into the causes and nature of epizootic abortion in cattle, and to consider what preventive or remedial measures may, with advantage, be adopted with respect to the disease. "The most hopeful line of enquiry," says the interim report of the committee, "seemed to be the

"was tested by giving her enormous doses of virulent exudate, both by the mouth and the vagina, thirty-six days after becoming pregnant and 142 days after immunization, and sixteen days later she received 10 c.c. of a dense emulsion of a virulent exudate into the jugular vein. She was killed, and found free from infection, 122 days after receiving the first infecting dose."

These results with heifers, we are told, "are all the more encouraging when one remembers that not a single negative result followed the intravenous inoculation of unprotected heifers with uterine exudate, and it should be noted also that the tests applied were in point of severity far beyond anything likely to be met with in practice."

The spraying of the external genital organs and hind quarters of cows with disinfected solutions is regarded as useless "so long as the animals remain in an infected byre."

As to the isolation of animals, as soon as they show signs of abortion it is remarked that the necessity for this measure is obvious, and cannot be too much insisted upon. "Isolation of the affected animals, however, must be complete before and after the act to be of any real value." Carbolic acid and other antiseptics are regarded as useless as curative agents, and "as a preventive agent by internal administration we believe carbolic acid to be equally useless."

The irrigation of the genital passages of animals which have aborted with antiseptic solutions is recommended, "but not on the grounds that the injections will disinfect the uterus.

We are of opinion that it will seldom be necessary to continue the injections for more than a month, and that after three months there should be small risk in putting the cow to the bull, provided she is afterwards protected against fresh infection."

It is observed that cows which have aborted should not be sold, except for slaughter, till they have ceased to discharge. The report indicates that cows which have once aborted are, as a rule, less liable to infection during a subsequent pregnancy than if they had not before aborted, though it is known that a considerable number of cows abort twice in succession.

The committee consider "that on infected premises the animals which have already aborted are to be looked upon as valuable assets for purposes of eradication, much more valuable than new and susceptible animals brought in. We find, however, that a small portion of cows will not hold to the bull for an indefinite period after abortion, and it may be found better to fatten off such animals, unless they are of high value."

The committee speak with caution as to the part which preventive inoculation is likely to play in the battle with abortion. At the same time, the report is hopeful in its tone as to the probable benefit from this direction.

It is especially important that alfalfa intended to be fed to hogs should be cut early. An experiment at the Kansas Station showed that a ton of early-cut and well-cured alfalfa hay, fed with grain, produced 868 pounds of pork, while a ton late cut and poorly cured, fed with grain, produced only 333 pounds. For fattening hogs it is well to feed about one ton of well-cured alfalfa hay with each 250 bushels of grain.—[From Coburn's Swine in America.]

Intending exhibitors of live stock at the fairs will do well to remember that in close competition, condition of hair and hide and good manners count.



Southdown Shearling Ram.

First and reserve champion, Bath and West of England Show, 1909.

production of immunity by inoculation of large doses of pure culture. One of the great objections to the protective inoculation methods in practice is the number of operations necessary to ensure protection. But, owing to the harmlessness of large quantities of pure cultures of the abortion bacillus when injected into non-pregnant animals, it seemed possible that whatever degree of immunity could be established by a practicable number of small doses might be conveyed by inoculating one large dose." Trials with pure cultures of the bovine abortion bacillus were, therefore, made with ewes and heifers, the animals



Ratcheugh Beauty.

First-prize Shorthorn cow at Royal Show, Gloucester, 1909. Bred and exhibited by Wm. Bell, Alnwick.

The Trade in "Prime Scotch."

"Farmer's Advocate" readers are aware, from the valuable letters of our Irish correspondent, that the agriculture of the Emerald Isle is undergoing a remarkable regeneration. In the production of bacon, butter, eggs, poultry, etc., great strides have been made.

In view of the increasing attention which has been drawn to the possibility of developing in Ireland a dead-meat industry similar to that at present carried on between the North of Scotland and the Central Market at Smithfield, in London, the Irish Department of Agriculture sent over an officer to investigate and report upon the conditions under which the business is worked.

The London Central Market for dead meat, at Smithfield, which was opened in 1868, is recognized as the largest meat-distributing center in the world. The home supply, which in recent years, owing to the development of the chilled-meat trade, scarcely amounts to twenty per cent. of the total, is sent from the chief feeding districts in England and Scotland. North of Scotland feeders, especially, prepare the great majority of their fat cattle for consignment in the dead-meat form to Smithfield; and, owing to the superior manner in which cattle from these districts are finished, the dressed carcasses from there command the highest prices in the market, and are known as Prime Scotch. Aberdeen is generally regarded as the most important seat of the industry in the North of Scotland.

The greatest part of the Scotch meat trade with Smithfield is carried on by a class of men who buy the cattle when fat, either directly from the farmers, or at the local auction marts, and, after slaughtering, consign the dressed carcasses to salesmen in Smithfield for disposal. These men are the mainstay of the fat-cattle trade in the North of Scotland, and may be described as Dead-meat Consignors. In addition to these, however, certain classes of butchers occasionally send to London consignments of dead meat, especially the more valuable portions of the carcasses, which can be more profitably disposed of at Smithfield than locally. From the prevailing quotations for dead meat at Smithfield, consignors are enabled to follow the trend of the market closely, and to decide on the most advantageous times to forward supplies. So far as could be ascertained, there are no co-operative societies engaged in the trade. A large number of farmers in Inverness and Ross-shire kill and send on their mutton dressed for sale, but very few take part in the dead-cattle trade with London. In an occasional instance, where farmers are dissatisfied with the live prices obtaining locally, the cattle may be entrusted to commission butchers, who, for a charge of 4s. to 5s. per head, will dress and work them up for the London market.

THE MOST SUITABLE TYPE.

The class of cattle which Scotch feeders prefer for feeding are the ordinary Aberdeen-Angus type of the country. These, as a rule, are short-legged, level-backed, early-maturing beasts, with fine coats, and, when finished, carrying the flesh very evenly distributed all over. Black-polled cattle, whether pure-bred or first crosses, are regarded as ideal beef animals, and it is claimed for them that they respond so much better to feeding than the Irish imported bullocks, that they can be sold off considerably earlier, and, on an average, will yield a higher percentage of dressed carcass to live weight. At the same time, large numbers of Irish store cattle, suitable for feeding, are annually brought into all the counties engaged in the fattening industry. These Irish cattle are mostly Shorthorn crosses of good quality, and dealers who supply these districts from Ireland, find that there is no demand from feeders except for the very best quality of stores—strong, level-backed beasts, with well-sprung ribs, good pliant hides, and a general appearance of growthiness. Most Scotch feeders prefer to get Irish cattle as young as possible, and a large number of calves, ranging from seven to nine months old, and, at prices averaging from £5 15s. to £6 10s., are imported in the late autumn months every year. The preference given for young cattle of this age is evidently due to the fact that Scotch feeders keep growth continuous during the first winter by careful and generous feeding. In this way the desirable calf-flesh is maintained, and a healthy development of the whole frame is promoted, more especially at a stage when any check in growth or poorness of condition, through insufficient feeding or careless treatment, marks itself most detrimentally to the profitable keep of the animal afterwards. In addition to these weaned calves or small "stirks," which range in price from £4 10s. to £7 15s., a great number of Irish stores are also brought in

each year for fattening. These vary in age from 15 to 20 months old, and cost on an average from £8 to £12, according to quality. In either case, Irish-reared cattle are usually kept over by Scotch feeders till fit for disposal in the fat-stock market, at the age of 2 or 2½ years old. Sold at this stage, these cattle, if well finished, will make from 10 to 11 cwts. live weight, and bring from £20 to £22 in the auction mart-ring. The opinion prevails, generally, that the younger class of Irish cattle return the most profit, and one instance was given of a Scotch feeder who purchased in the late autumn a bunch of sixteen Irish-reared heifer calves, which, when sold, at about two years old, made an average price of £21 each. Contrasting the black polled cattle with the imported Irish Shorthorn-cross beasts, it was conceded that, given similar feeding and treatment, little difference in the weights might be expected; the black cattle will, however,

reach maximum growth earlier, and can be finished more quickly; whereas the Irish cattle, if slower in growth, have a greater scope, and, after a certain stage in feeding—when the black cattle are fully finished for killing—continue to increase materially in weight, and ultimately produce a heavier carcass.

PRICES OF MEAT AND OFFAL.

Beef in Smithfield is bought and sold at so much per stone of 8 pounds. Quotations according to quality are usually given in terms of this weight. The following report shows the rates for the different kinds of meat on the markets for one particular day:

London (Central).—A fairly good quality was available this morning, and had a fair demand, at firm prices. Arrivals comprised 60 tons Scotch, 100 Liverpool sides, 800 American refrigerated hind quarters, and 700 fore quarters; also, 2,700 Argentine chilled hind quarters and fore quarters. Quotations: Scotch sides, 4s. 2d. to 4s. 6d.; short sides, 4s. 8d. to 5s.; English, 3s. 9d. to 3s. 11d.; American, Deptford killed, primes, 3s. 7d. to 3s. 9d.; seconds, 3s. 3d. to 3s. 5d.; Liverpool firsts, 3s. 6d. to 3s. 8d.; seconds, 3s. 3d. to 3s. 6d.; American refrigerated hind quarters, 3s. 8d. to 4s. 1d.; seconds, 3s. 2d. to 3s. 6d.; fore quarters, 2s. 6d. to 2s. 8d.; seconds, 2s. 1d. to 2s. 5d.; Argentine chilled hind quarters, 2s. 7d. to 3s.; fore quarters, 2s. 1d. to 2s. 3d.

Scotch beef, it will be seen, commands the highest price, owing to its superior finish and dressing, reaching 7½d. per pound, or 70s. per cwt., for the short sides. The long sides are generally from ½d. to ¾d. per pound, or 6d. per Smithfield stone (8 pounds), lower in value than shorts, though in some seasons the sides of choice heifers will make as much as the hind quarters of rough bullocks.

The value of the offal, which includes hides and horns, tallow, head, tongue, tail, feet, kidneys, heart, liver, tripe, windpipe, spleen, blood—in fact, everything except the dressed carcass—is estimated by Scotch butchers at so much per cwt. of dead-weight carcass. This estimate ranges from 7s. 6d. to 10s. per cwt., but 8s. was given as representing most nearly the average value, taking one class of cattle with another. Thus, the offal of a bullock weighing 10½ or 11 cwts., which would kill at about 6 cwts. of dressed beef, would be valued at approximately £2 8s.

If the effort to develop a profitable trade in really first-class meat is to be successfully accomplished in Ireland, attention will need to be given, first, to the quality of the animals kept, and their suitability for beef production. The North of Scotland possesses animals of an admirable beef type in the native Aberdeen-Angus and their crosses. The demand in London at present is not so much for size as quality; the black polled cattle, inasmuch as they mature early and are profitable to feed, and, if well finished, give a high proportion of dressed carcass, are especially suited to both breeder and consumer. At the same time, from inquiries made, the Irish-reared cattle, which are brought over as stores to the feeding districts, can be equally well and profitably fattened for the London market. Indeed, according to an estimate given, fully one-third of the cattle which are killed in Scotland, and disposed of in Smithfield market as prime Scotch, are Irish-reared. Inasmuch as these cattle represent the best quality of Irish stores, it is evident that, with care in breeding and grading, there is nothing to prevent Irish farmers from producing cattle of a type and quality suitable for marketing in dead-meat form at Smithfield.

(2) Another feature of the cattle-feeding system in Scotland is the early stage at which the animals are finished and ready to be disposed of as fat. No doubt many of the cattle are naturally of the quick-maturing type, but there can be little question that much of the success in this respect is due to the treatment and feeding given to the animals during their first year's wintering. Feeders generally recognize the value of the calf-flesh for early fattening, and take care that their young animals do not lose it either through unsuitable housing or insufficient feeding. The system practiced in Ireland represents a very unfavorable contrast, and is one feature of the Irish cattle industry which requires to be essentially improved, more especially if success in profitable fattening is to be afterwards obtained.

(3) The extra finish of Scotch-fed cattle, coupled with quality, has earned for Scotch beef the high reputation which it now holds in the London market. Scotch feeders recognize that it is the last quarter hundredweight of beef they can put on their cattle at the finishing stage that regulates the price of the whole carcass, and consequently determines the ultimate profit. Animals, to be disposed of profitably in Smithfield, must be well finished; there is no demand for half-fat or poorly-finished beasts; these, indeed, can be more profitably disposed of elsewhere. As a rule, prime finished cattle are expected to dress 64 per cent. of live-carcass weight, and the majority of the animals sold as Prime Scotch make this average.



Short Sides Beef—Dressed for London Market.



Long Sides Beef—1st-prize Meat, London Market.

THE FARM.

Water for Crops in a Dry Time.

Why do we talk so much about the weather and the crops? The two topics go together. All through the dry periods of summer we watch the sky for clouds and rain. What "Old Probs" has to say is more important than the heaviest editorial in the daily paper. Why? Because water is essential to a good crop. About the most important use of the soil is to store moisture. For every ton of dry matter in cultivated crops from 300 to 500 tons of water are required. Too little is fatal, and too much almost as bad. Three months ago farms were submerged, seeding delayed and prospects blue. But in July a couple of weeks drouth looked disastrous. Corn stood still, gardens languished, all for want of water gone up in the air—evaporated. Oats, in many fields, headed out at six inches, a sickly yellow, betokening failure, and yet in different sections of Western Ontario adjacent fields have been observed, equally fertile and well put in, one like the foregoing, the other a dark, healthy green, strong and tall, certain to yield bountifully. Why this difference? The one was sowed too late, we say, ten days or a fortnight after the other. That is the fact, but what was the reason, if not lack of moisture? The early-sown had got rooted, covered the ground with its verdure, so that evaporation was checked and the plant received its food and drink. The late-sowed field was bare to the sun; evaporation went on faster than before. The grain germinated and took what little moisture it could find. It struggled to mature or reproduce itself, as plants are bound to do, by heading out, but the grains are little better than hulls—a weak, premature failure.

In the semi-arid far Western States it is amazing, without irrigation, what results in crops are secured with little rainfall by modern methods of soil handling. And yet with the favored soils and humid climate of Eastern Canada we have our periodical dry-spell panics, and the results are serious enough. If the early rains were only distributed at proper intervals all would be well, perhaps. Every season someone's crops are failing for want of water, but, strange to say, in the same district, with no more from the clouds, other grain fields are almost invariably to be found waving the banner of success. Plenty of water fell, but escaped before getting in its work in plant feeding. Why not prepare for such contingencies?

SECURING MOISTURE BY DRAINAGE.

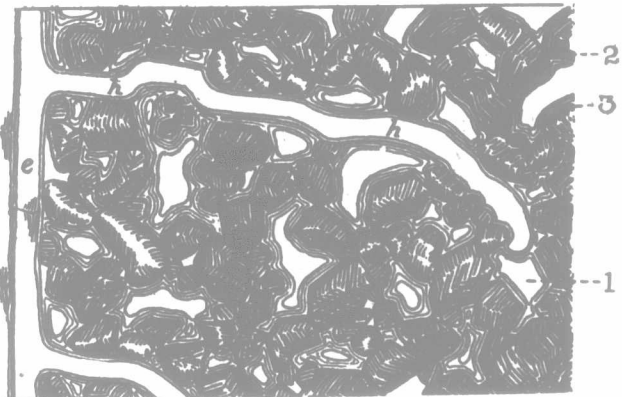
Periods of summer drouth appear to grow more frequent and severe. Dairymen cannot even rely upon the pastures, but look to forage crops and the silo. How, then, are the crops to be ensured against dry spells? Let us study our servant, the soil, to increase its moisture-retaining capacity. What we have we must hold. Someone asks if moisture is so great an essential, why drain at all?

Moisture is not the only condition of growth. We must cease to regard the soil simply as a ready-to-hand store of fertility, into which if seed be cast, a crop will result. It is a store-house of moisture, and the more readily the plant can use this water supply the better. But from it plants derive certain elements, the product of decaying and dissolved soil particles. It is likewise an agency or workshop, in which, by means of moisture, heat and air, chemical processes go on creating other plant foods which find their way in solution through the hair-like rootlets into the tissues of the plant. On many fields, after a heavy rainfall, the water soaks away or evaporates, leaving the surface covered with a smooth crust and the earth below hard and impervious. The young grain becomes a pale yellow, smothered like a drowning man for want of air. The rootlets could not appropriate the food, nor was it in available form. Drainage ventilates the soil and warms it. It lowers the level of the water table, and instead of a sodden mass into which the rootlets will not descend, we will have a group of mellowed and vitalized particles lying close together, yet each enfolded with a film of moisture, as is shown in illustration "A" (reproduced from King, on Soil Physics). Engraving "B" (from Vivian's First Principles of Soil Fertility) shows how much better the rootlets go down in the drained than in the undrained soil. The drain has removed the excess of water, but with proper tillage we have the soil in such condition that it really holds more moisture charged with fertility and available for the plant than it did before. The third engraving, "C" (selected from Campbell's Scientific Soil Culture), shows how the rootlets of the growing grain spread out through the fine but firm seedbed, compared with one in a coarse, lumpy state. We cannot regulate the weather or the rainfall, but what is better, by drainage and

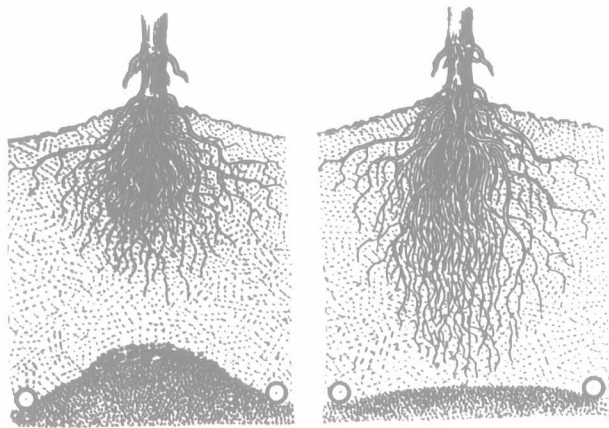
tillage we can adjust the soil and control its moisture.

HOW TO SAVE MOISTURE.

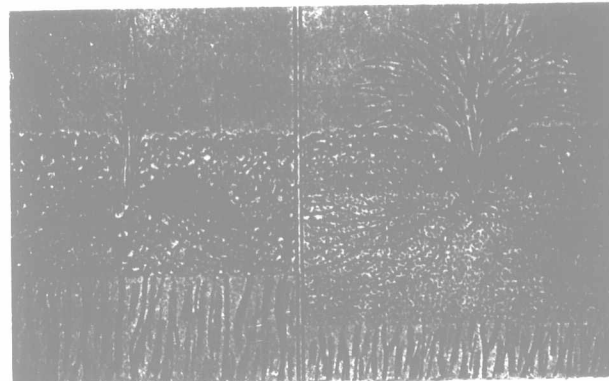
Now, after heavy rains compacting the soil, especially a clay or clay loam, the loss of water through capillary attraction and evaporation is enormous under a hot sun and drying winds. We can stop that by breaking the connection with a shallow soil mulch effected by the harrow or the weeder on grain, or a shallow-working cultivator in the corn. Early tillage, both in autumn and spring, fits the soil, so that when rain does come it will percolate readily downward, and the surface mulch will hold it for the next crop. Plenty of vegetable matter or humus, such as comes from coarse stable manure, clover, roots or green crops plowed down, makes the soil hold moisture like



"A"—Distribution of water on the surfaces of soil grains and of root-hairs. e, main root; 1, air space; 2, soil grain; 3, film of water; h.h., root-hairs. (After Sachs.)



"B"—Good drainage encourages the roots to strike downward, and when the drouth comes, the plants do not suffer.



"C"—Growth and stooling of grain. (a) Growth in loose, unpacked soil. (b) Growth and stooling of wheat in ideal soil conditions.

a sponge, and it is one of the advantages of top dressing. Unseeded stubble fields dry out terribly fast after harvest. Moral: more seeding down to clover or immediate culture after harvest to store moisture and make fertility for the next crop. If the disk harrow or light gang plow will not turn the sun-baked soil, the use of the heavy two-furrow riding plow has been found very effective. Weeds should not be permitted to drink the water that the crops will need.

The summer or early autumn cover crop, as suggested by Mr. Lawrence, of Oxford County, in this issue, has more than one good reason in its favor. This whole subject of conserving moisture and promoting fertility is important and timely, and with the testimony of the fields before us, and with special reference to after-harvest tillage and fall-wheat seeding, will bear further discussion in "The Farmer's Advocate."

Weeds, and Some Other Things.

A few days ago I was hoeing weeds in my garden. My garden grows most luxuriant weeds—if it gets the chance. Pressure of other work necessitated an almost complete neglect of the weeds for a few weeks; they took advantage of my neglect in those few weeks, and had a very tenacious hold on the ground—most aggravatingly so—with the result that two or three hours were required to hoe what ground would have been hoed in one hour a week or so before. While I was overtaking this work, some thoughts were chasing each other through my mind. I now inscribe them on paper, and the editor of "The Farmer's Advocate" may print them or drop them in the waste-paper basket, whichever is most appropriate.

Weeds have an economic as well as a moral value. Those of you who have spent time and labor, which means money, in an effort to get rid of them, may be inclined to dispute this, but read on, and see if I can make good this assertion.

In the first place, they are remarkably reliable indicators of character, both of the farm and its occupant. A good farm will grow vigorous, luxuriant weeds, while a poor farm will grow scrawny, ill-fed weeds. A good farmer will have the first kind of weeds on his farm, where any may be overlooked, for his farm will be kept in a good state of fertility. Of course, it goes without saying, that very few weeds of any kind will be found on the farm of the good farmer.

Another value that weeds possess lies in the fact that they render necessary a very frequent cultivation of the soil in the growing season. Any intelligent farmer will not need to be reminded that the soil needs cultivation whether there are weeds there or not, but even on the farm of the good farmer this frequent cultivation is a thing that might not be attended to as it should, were it not for the weeds.

Nature detests a vacuum. Nature likewise seems to detest a barren piece of soil, and if there is any nourishment whatever in that soil, nature will find a way to clothe it with vegetation. Of course, Dame Nature is not particular as to the kind of vegetation, and she chooses whatever kind she can establish there with the greatest ease. These kinds are usually the plants that have been through countless generations of plant life acclimatized, and, in other ways, rendered hardy for that particular locality. She attains her object. The barren soil is clothed with vegetation. The soil is held in place in opposition to the shifting influences of wind and water and frost, and through time, if nature is not interfered with, a more valuable form of vegetation may take the place of the weeds. Of course the farmer does not always agree with nature in this. It may suit his purposes better to leave the soil in a fallow condition for the time being, in order to prepare it for the reception of his artificially-bred and developed, and, in most cases, more delicate plants. This brings me to another thought that was wandering around in my brain that day. The difficulties attending the production of a plant very largely determine its value. Thistles and burdocks don't require very much cultivation and work to produce a good crop, but after it is produced the farmer reaps no very satisfactory reward for his crop. Celery and onions, on the other hand, require a great deal of very laborious and painstaking work, but it pays. Stepping from the vegetable to the animal kingdom, we find the same rule holds good. A ground-hog is an animal we can have fairly swarming over our farms, without much effort on our part. All we need is to provide a good field or two of clover each year, but we don't make very much money out of the ground-hog. A boy, on the other hand, is an "animal" most difficult to raise, exasperatingly so, but the finished product, when properly grown, is a product the value of which who would dare estimate?

I said that weeds have a moral value. Strength, of whatsoever kind, is developed by resistance to itself. If we wish to find an effeminate race, we do not go to a northern clime, where conditions of life are such as would kill off an effeminate race. We go to a southern clime, where it is really not very essential that man should work in order to live. Our strong men are not produced in homes of wealth, where every want and whim is pandered to by over-indulgent parents, but rather on the farm, and very often on the farm of mediocre or poor quality, where the boy is compelled to work out his own salvation, in his own way; where qualities of resourcefulness, stamina and strength are thereby developed. Herein lies one of the main moral values of weeds. They don't allow us to earn our living too easily. They provide some resistance to our strength of mind and body. This thought applies to animated as well as vegetable weeds, for there are insect and animal weeds—plenty of them—yes, we might almost say, and human weeds.

When God drove man from Paradise he told him, "Cursed is the ground for thy sake; in toil shalt thou eat of it all the days of thy life." I

am sometimes inclined to think that God really bestowed a blessing on the human race when he condemned us to a life of toil. If he had condemned us to a life of idleness we would have been cursed indeed. Weeds, animal and vegetable, are the cause of a goodly share of our toil, and thereby contribute not a little to the building up of humankind into a strong and virile race.
Waterloo Co., Ont. LUSUS NATURÆ.

Plow Early After Harvest.

Editor "The Farmer's Advocate":

We have found it a very good plan in a moist or showery season to plow the fall wheat stubble lightly with a two-furrow plow as soon as ever the crop is drawn in; then roll and harrow well, and then sow two or three pounds of rape to the acre, harrowing well and rolling again. We did this last season, and had quite a crop of rape, which the pigs ate greedily for a considerable time. Some seasons it is rather dry, but generally there is moisture enough to start the rape. The weed seeds generally start as well as the rape. The ground can be plowed again a little deeper just before winter, and is left in good shape for next spring's crop, whether roots, corn or grain. We prefer, when possible, to plow very lightly, the unseeded oat stubble, then harrow and work up fine, and before winter plow deep, but if the ground is very hard and dry, it is sometimes impossible to plow very lightly; then we plow an ordinary furrow and harrow and disk the ground up afterwards. I believe that it pays to work up the unseeded stubble ground as quickly as possible after the crop is taken off, as it gives all the weed seeds near the surface a chance to germinate, and we then get rid of them.

I believe for land intended for roots next spring, that it pays to work it up well in the fall, and, if possible, put on the manure and plow it, not too deep, before winter. But we scarcely ever get manure enough ahead to do that. We have no unseeded oat or barley stubble this year. Some seasons we have sown rape with the oats; in that case we did not touch the ground until nearly winter, as the young cattle were pasturing on the rape.

One fall, some years ago, we plowed the land intended for roots very lightly, and then harrowed and worked it up well, and then before winter manured and plowed again; and in the spring we just cultivated good and deep, and then drilled up for mangels, and had a good crop, easily cleaned. We cannot follow the same procedure every year. We have got to accommodate ourselves to the weather conditions and the varying seasons.
D. I.
Oxford Co.

Soil Conditions for Wheat.

Wheat can be grown to perfection from the sunny South to what we have been led to believe was the frozen North. It is produced in larger quantities than any other grain; it is one of the most, if not the most, nutritious of all our cereals, and it is consumed in immense quantities as human food, forming one of the cheapest and best articles of our diet; consequently, we cannot be very far astray if we call it our most important cereal.

There is an abundance of evidence to prove that the composition of wheat is influenced by its environment. Millers are familiar with the fact that some districts in Ontario will produce a much better quality of wheat than others, and that the spring wheat of the Western Provinces is superior to the best Ontario can produce. Possibly climate, including variations due to season, and soil, or, rather, the condition of the soil, are the two main factors influencing the composition of wheat. To obtain a good quality of wheat, for milling purposes, we require bright, warm days, with an abundance of sunshine and absence of an excess of moisture, or, in other words, the conditions that would cause rapid, though normal, ripening of the grain.

Wheat may be grown upon all soils, except the lightest or sandiest, although fall wheat will even do well on these; but, in general, it may be said that wheat prefers the stronger or more clayey soils. The main points to be considered are that the soil shall be well drained, with an abundance of readily-available plant food present.

Wheat land should have good natural drainage, or be underdrained, and, with clayey soils the land should be thrown up in narrow ridges, to insure good surface drainage. For obvious reasons, this is more essential with the autumn than with spring-sown varieties.

To insure the abundance of available plant food, wheat should follow a summer-fallow or a leguminous crop, such as clover or peas. The fallow is an expensive method of preparing the land, unless it is very weedy; but, if properly followed out, the continual cultivation during the summer will aid in the formation of a large store of nitrates and of available ash constituents. The leguminous crops, because of their characteristic power of collecting nitrogen from the air, and

natural richness in potash, leave the soil rich in these constituents. In preparing the soil, the object should be to secure a fine, loose seed-bed and a firm under-soil that will not dry out too quickly. To obtain this, the land should be plowed as early as possible, so as to allow it to be well packed down, and by surface cultivation produce the fine seed-bed, and, at the same time, conserve the moisture which is naturally rising from beneath.

The demands made by the wheat on the land are not heavy. The following table shows the pounds of plant-food constituents taken out of the soil by a few of the common farm crops:

WEIGHT OF PLANT-FOOD MATERIALS REMOVED PER ACRE FROM THE SOIL, BY SOME FARM CROPS.	Weight of crop at harvest.		Nitrogen.		Potash.		Lime.		Phosphoric acid.	
	Lbs.	Dry Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Wheat, grain, 30 bushels	1,800	1,530	34	9.3	9.3	1.0	14.2	6.9	21.1	13.0
Wheat, straw	3,158	2,653	16	19.5	8.2	9.2	6.4	11.6	19.4	21.9
Total crop	4,958	4,183	50	28.8	16.5	1.8	25.6	22.7	40.5	36.4
Oats, grain 15 bushels	1,890	1,625	34	9.1	9.1	1.8	13.0	6.4	19.4	21.9
Oats, straw	2,855	2,353	18	37.0	37.0	9.8	6.4	11.6	19.4	21.9
Total crop	4,745	3,978	52	46.1	46.1	11.6	12.4	22.7	38.8	43.8
Red Clover Hay, 2 tons	4,180	3,763	98	83.4	83.4	19.7	16.9	4.8	79.7	42.4
Swedes, root, 14 tons	31,360	3,419	70	63.3	63.3	19.7	16.9	4.8	222.8	36.4
Swedes, leaf	4,704	706	28	16.4	16.4	4.8	4.8	4.8	77.9	16.5
Total crop	36,064	4,055	98	79.7	79.7	24.5	21.7	9.6	300.7	52.9
Mangels, root, 22 tons	19,280	5,914	98	5.914	5.914	15.9	15.9	15.9	27.0	16.5
Mangels, leaf	18,233	1,651	51	1,651	1,651	27.0	27.0	27.0	42.9	52.9
Total crop	67,513	7,568	149	7,568	7,568	42.9	42.9	42.9	72.9	69.4

It will be seen that 30 bushels of wheat take from the soil approximately one-half as much nitrogen as 2 tons of clover hay, or 14 tons of Swedes, and about one-third as much as 22 tons of mangels, while there is even a less proportion of potash. Wheat is a deep-rooted plant, and apparently can collect its supply of potash somewhat readily, but it has great difficulty in securing the amount of nitrogen it requires. This is doubtless due in part to the season of the year in which it makes its growth, for the fall and spring rains tend to wash the soluble nitrates down deep into the soil, and the actual growing period of the plant does not continue in the spring very long after nitrification has recommenced.

As shown above, wheat is an inexhaustive crop, in the sense that it does not take large quantities of plant food from the soil, but it is exhaustive in another way, in that there is practically no residue, and usually nearly all the crop is sold off the farm. Judging by the figures given above, it would not be good practice to apply large quantities of manure to the land immediately before sowing wheat, but rather to the heavy-feeding root crops, especially in a short rotation; but, as wheat is commonly looked upon as the money crop, the practice in many places is to manure, to insure large returns. When this is done, along with summer-fallowing, there is a serious loss of plant food, although a good crop will be secured. If manure is applied at the time of plowing down a clover sod, there is danger of so retarding the work of preparing the land that seeding-time comes before the ground is sufficiently firmed to establish the connection with the supply of water below, and the ground will be too dry for proper germination of the seed. For the same reason, pea stubble should not be plowed at all, unless it is so full of grass as to make it absolutely necessary. Where possible, the manure should be used as a top-dressing, and thoroughly worked into the soil. The general

use of fertilizers is not to be recommended, excepting after experiments in a small way have demonstrated that they can be used economically. It is quite possible that a light dressing of 50 to 75 pounds of nitrate of soda per acre, applied in the spring, if the wheat shows signs of going back, may be helpful.

Regarding the effect on the quality of wheat, experiments at Rothamstead, and at the Experimental Farm at Ottawa, have demonstrated that manuring does not improve the quality, although it will increase the yield. The investigations of F. T. Shutt, Chemist of the Dominion Experimental Farms (Society of Chemical Industry, April 15th, 1909), shows that the quality of the wheat is influenced by the nature of the weather during the ripening period, and by the amount of moisture in the soil. He concludes that one of the main factors in the production of the white, starchy grains, commonly called "pie-bald" wheat in the Western Provinces, is moisture in the soil. In our own Province, the peculiarities of the soil of the districts that are known to produce the best wheat have not been studied out. It is probable that allowing grain to become overripe tends to produce a starchy kernel, which is not of as good quality as if it had been cut at an earlier stage.

R. HARCOURT, Prof. of Chemistry,
O. A. C., Guelph.

Cement Paint.

Take any quantity of Portland cement, and put in suitable can or pail, and add enough coloring to make it desired shade. Stir well, so as to get color thoroughly mixed with cement, then add enough milk (whole milk is best) to make the cement of the consistency of thick cream, and apply with an ordinary paint brush.

This is what is called cement paint. It is cheap and durable. It will last for several years. For painting fences and buildings, it cannot be beaten, for it can be used on rough boards as well as smooth. Red is the color generally used. If you prefer light red, get Venetian red coloring, but red oxide, I think, is best.

A coat of paint greatly improves the appearance of any buildings or board fence, and now that you can paint so cheaply, there is no excuse for anyone not painting his buildings, etc. It can also be used to advantage to paint fence posts used with woven-wire fencing. The woven fences are now to be had painted white, and if you paint your posts red, you have a very fine-looking fence. Paint adds greatly to the value and appearance of one's place. Get busy and paint, paint, paint—and then some more.

C. H. R.
[In using above, it is well not to mix up very much with the milk at one time, as it inclines to set and harden. For that reason, also, it should be kept stirred. Cement paint will not wash off, but our experience has been that, after a few years, it will peel off to some extent.—Ed.]

The Loose-stone Nuisance.

Editor "The Farmer's Advocate":

In writing "The Farmer's Advocate" on this subject, I am prompted by an editorial of yours of some time ago. I regret that I cannot quote from that, but two things I can recall. One was, that the jolt and jar when driving over our country roads was due largely to loose stones that fall into a rut, and the other was the annoyance to the horse from such.

This loose-stone business is a more serious matter than at first one might suppose. Many have probably never thought anything about it, except that it was a necessary evil that had to be endured.

Shortly after reading your editorial I had occasion to take some bees to an out apiary in the country. I was desirous that this be done with as little jar as possible. It was in the spring of the year, and narrow ruts had formed from one to two inches deep. The load moved along smoothly, except every now and then there was a jerk and a jolt, which were invariably caused by a loose stone that had fallen into a rut. There was no escaping them, except by making matters worse.

It is not only, however, when ruts are formed that these loose stones are a nuisance, but at times when but for them some of the country roads would be fairly good.

Take any of our gravel roads, at least in this section, and you will find loose stones from the size of a hen's egg to others three and four inches in diameter. Our sympathy goes out for the horse that has to pull a load over these unnecessary obstructions. If you do not think it makes much difference, just try it yourself and see.

The annoyance to horseflesh alone, and the extra wear and tear on them should be a sufficient reason for banishing such, for who can tell when a horse has about all he can pull, how much extra strain upon him is caused by just such stones?

Count them some day if out for a mile, and multiply this by the number of miles travelled in one day, and then this by the number of miles travelled in a year, and you will have some idea of the importance of this matter. With buggies and other spring vehicles we are not so apt to notice them, but they are there all the same.

Sometimes the wheels will strike them fair and square, both the front and rear; at other times the stone shoots in one direction and the wheel in the other. When one considers that this goes on day after day, and year after year, the wonder is that our wheeled vehicles last as long as they do. I venture to say, however, that the duration of these would be doubled if such obstructions were removed. East of your farm for a distance of two miles is a nice smooth road, with all loose stones removed. West of you we will suppose the opposite. Would it not do your buggy more harm to go one mile west than two miles east? I believe that you would rather it would go over six miles of the one than one of the other. It is my conviction that the saving in vehicles alone, apart from that of horseflesh, would pay the expense of removing them ten times over.

Some of us have seen a mason at work. There is a big hard stone he wishes to break. He decides where he wants it to divide, and then he brings down his big hammer again and again, apparently to no effect. Time will tell, however, and by and by the stone separates into two or more pieces. Now, this is similar to what takes place every time a wheel strikes a stone, loose or otherwise. It speaks well for the manufacturer that rigs stand as long as they do. Watch the tongue of your waggon some day when drawing a load over a road with loose stones, and as you see it sway from side to side, as one or the other of the front wheels passes over obstructions, you will be free to admit that neither the editor of "The Farmer's Advocate" nor myself have magnified this nuisance. Just how much injury is done to horses from stepping on these loose stones, or how much of a saving of horse power, or how much in dollars and cents on vehicles would be saved were they removed it is difficult to estimate, but I feel I am safe in saying that it would pay many times over to employ a man to remove them with a garden rake, if necessary. Better than this, though, would be a machine, built after the style of a side-delivery hay rake—something that would adapt itself to any unevenness in the road, and that would clear it of everything larger than a pigeon's egg. They could with this be put out far enough so as not to interfere with vehicles passing or meeting each other. The following spring I would run the machine the opposite direction, and bring them to the center, and have them where they would do good, and be soon out of sight and annoyance for evermore. Or, if preferred, a machine could be made that would gather them up and they could be conveyed where they would be of some use. The cost would be trifling in comparison with the good that would be done. As things are now, they are rolled from center to side, and from side to center, over and over again.

Last summer I had occasion to travel over a newly-gravelled road. It was put on to the depth of fully eight inches, and on the top were stones of three and four inches in diameter. It is bad enough to put stones of this size on a road at any time (a common practice, however), but if they were raked to the bottom with the fine on top, it would not be so bad. Sometimes, however, stones of that size too frequently come too close to the surface, especially in a dry season. It has been truly said that the only time of the year when good roads are possible, they are spoiled by a coating of gravel. If, however, nothing was allowed on them that would not go through a two-inch ring, and the finest on top, the trouble would soon be over. I was a little surprised to find how quickly a coating of fresh gravel is fit for travelling on, barring the loose stones that are bound to appear. Sometimes the sides of the road are very good, so that an effort is made to escape the abomination; at other times there is not much choice. Again, we find holes filled up, and the remedy is worse than the disease. Stones near eight inches in diameter are found here, and on top at that. If near a brick yard, broken brick are used, and are a menace for days to come. Horse power may be very good, but it is the abuse of a good thing to use it to level obstructions on highways with costly vehicles. Many who have charge of our country roads are negligent of duty. Stones six inches and more in diameter are left there year after year, some partly and others fully exposed; sometimes an old stump relic of former days is allowed year after year to project dangerously above the level. Such things are tolerated year after year in the country that would not be allowed to exist for a day in the town or city. In more ways than one it will pay to give more attention to ridding our highways of the loose-stone nuisance. Not two hundred yards away is a horse that has been lame for days from stepping on a loose stone. It is a mistaken idea that graveling always improves a road. As you said in a recent editorial, there are some roads better without it. If gravel

we must, let it be done understandingly. Not a mile from here a grading machine has been at work, but those in charge seemed to have no thought about the number of loose stones, large and small, that are left to be a nuisance. You have been and are doing a good work, Mr. Editor, in bringing this good-roads question more prominently before the public, and if for no other reason, every farmer should be a subscriber to "The Farmer's Advocate," for who can estimate the value of good roads, especially to the farmer? If only the wealth that is being squandered on war material were used in road improvement, how much better it would be, but much can be done without it. G. A. DEADMAN.
Huron Co., Ont.

A Commodious Farmhouse.

The farm of Wm. Hartley, whose spacious residence is illustrated on this page, is situated three miles from the town of Milton, in Halton County, Ontario. It is piped with spring water from the mountain, about one-quarter mile distant, and is lighted by acetylene gas. Mr. Hartley's spe-



Farm Home of William Hartley, Halton County, Ont.

cialty is small-fruit-growing, and his farm of over 100 acres, sheltered by the mountain, he finds an ideal spot for the culture of strawberries, raspberries, gooseberries, currants, cherries, and apples. At the time the photograph was taken, the men were too busy in the fields to be photographed.

A Perfect Earth Road.

Editor "The Farmer's Advocate":
The accompanying illustration shows 1/4 mile of the road worked by John Young, who won first prize two years ago, in "The Farmer's Advocate" split-log-drag competition, this being the third



—Photo by John Jackson.

Mr. Young's Three-piece Drag.

This road has now been dragged for the third season, and is show in perfect condition. Situated in Caistor Township, Lincoln Co., Ont.

year it has been worked with the split-log drag. You will notice the drag now in use has three, instead of two, blades. This is far and away ahead of two blades. It's like a jointer plane on a board.

The introduction of the split-log drag has done much to improve the earth roads. The trouble is so few have the right idea either of what the drag or the road should be like. In most cases

they get the drag quite too long. If a flat road were wanted, a long drag might be all right, if there were power enough before it; but, for a rounded road, great length is no use. But the greatest mistake is that the roads are nearly all too wide. This road is 19 feet between outside of ditches. This can be kept in shape with half the work that is required on one 25 feet wide. Some have them 30 feet, and even more. It doesn't require a wide turnpike or a deep ditch. A rounding road is wanted, and an even-grade ditch, so no water will stand in it. Wentworth Co., Ont. JNO. JACKSON.

THE DAIRY.

The Quarter-inch Wire Knife.

Among the numerous improvements in cheesemaking practice is the adoption of the quarter-inch wire, perpendicular knife, together with a three-eighths inch horizontal knife. Chief Instructor Frank Hens has thus explained to "The Farmer's Advocate" the successive steps that have led up to this stage:

The old style half-inch knives cut curd in coarse cubes, which were very difficult to firm, particularly if the milk was working a little fast. Often these cubes were broken up in the handling before dipping, liberating considerable fat, and in many cases causing loss from the small corners broken off, impossible to recover when the whey was drawn. The curd also contained too much moisture, unless held in the whey for a considerable length of time. First, a three-eighths inch wire knife was introduced for the perpendicular cut, making a block 3/8 x 1/2 inch, which was again cut the fourth time in order to get it fine enough, causing loss from the escape of fine particles of curd. Then a 3/8-inch horizontal knife was introduced with the 3/8 perpendicular wire knife, which made a very nice cut, and gave a cube 3/8-inch square, and no doubt is all right for normal milk, except in cases where it is difficult to get the curd firm. But for work during the three warm months, and in fact all the season, the 1/4-inch wire perpendicular knife, with a 3/8-inch horizontal knife, gives excellent results, since the curd has only to be cut three times, once with a horizontal knife and twice with a 1/4 perpendicular knife. This gives a curd 1/4 x 3/8 inches, which is easily firmed, even with fairly fast working milk, without rough handling, and ensures under average conditions a curd thoroughly cooked before sufficient acid has developed for dipping, which is one of the main secrets of successful cheesemaking.

Prefers the Gathered Cream System.

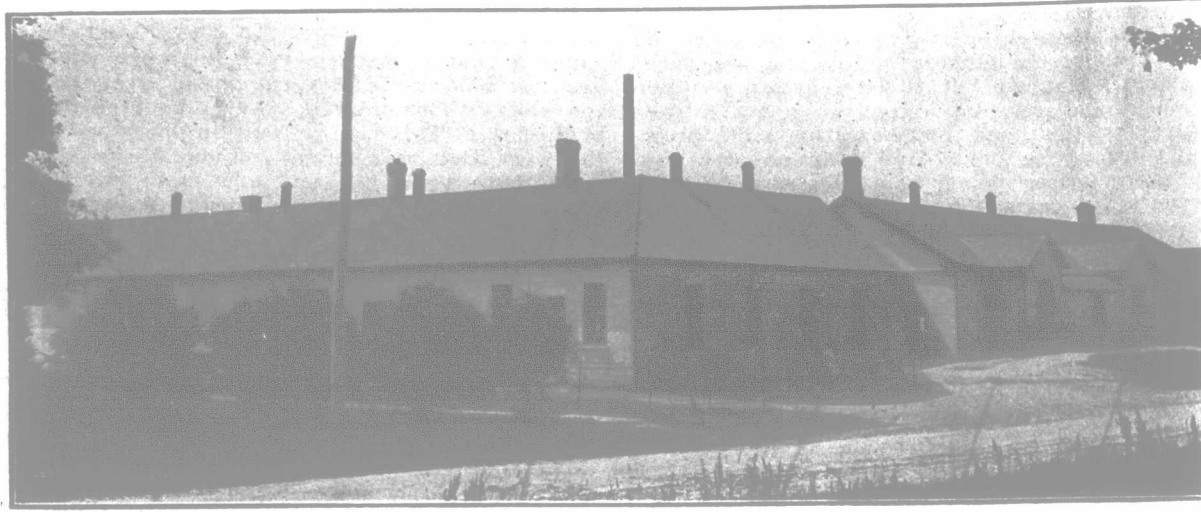
Editor "The Farmer's Advocate":
As a reader of your paper, I have taken a keen interest in your discussion on the merits of the whole-milk creamery, as against the gathered-cream system, and have no hesitation in saying that I prefer the latter, after trying both for a number of years.

The chief drawbacks which I found to the former was the time and expense of hauling whole milk to the creamery and the skim milk back. Apart from the poor quality of the skim milk, and the difficulty of getting the calves to drink it, I found the transportation problem sufficient to induce me to buy a cream separator, which is no harder to keep clean than a lot of heavy milk cans.

When one takes the whole milk it entails keeping a horse in the barn all summer—no little expense—for if you have to catch a horse in the morning all your neighbors will get there first, and it will be noon when your turn at the skim-milk spout comes, for it soon develops into a race of who will get there first so as to get back early.

With a cream separator in your barn you do not have to get up before the crows all summer to milk, nor listen to the calves roaring till they are hoarse on Sundays, or feed them whole milk, and even if we do lose a couple of cents a pound on the butter, as we are told, we are still a great deal better off than under the old whole-milk system. W. E. M.

Compton Co., Que.



One of Oxford County's Manufactories.

Plant of the Bright Cheese and Butter Manufacturing Co., Ltd. Made last year \$62,181.18 worth of cheese and butter. Has splendid modern cool-curing room.

Some Facts About Milk.

About one-sixth of the total food of the average family is furnished by milk and its products, according to Farmers' Bulletin 363, "The Use of Milk as Food," recently issued by the U. S. Department of Agriculture, to supersede an earlier one.

Of the various mammals whose milk is used for food in different parts of the world may be mentioned the goat in the hilly districts of Europe, the buffalo in India, the llama in South America, the camel in desert countries, and the mare on the steppes of Russia and Central Asia. Sheep's milk is used in some countries for making cheese and in other ways, and the milk of reindeer is commonly used as food in the arctic regions. With us the milk of the cow so far surpasses all other kinds in importance that unless otherwise specified the word milk is taken to refer to cow's milk only.

Good, unadulterated milk should contain about 87 per cent. of water and 13 per cent. solids.

Milk contains bacteria of many kinds and in varying numbers. They cause the souring of milk as well as the ripening of cream and cheese, and produce many other changes in the appearance and flavor. The number present in freshly-drawn milk varies enormously with the conditions of milking, and, as they are greatly increased with dirty and careless handling, cleanliness in all matters pertaining to the milking and marketing of milk and keeping it in the home cannot be too strongly insisted on. Disease germs, notably those of typhoid, diphtheria, scarlet fever and tuberculosis, may also be carried in milk, so that the purity of the milk supply is of vital importance to every family and community.

The problem of keeping milk sweet is one of checking the growth of the bacteria; and as they are inactive at a temperature below 50° F., milk should be kept in a cool place. Two common methods for preserving milk are pasteurization and sterilization. In the former the aim is to apply heat in such a way as to kill most of the bacteria without producing undesirable changes in the milk; in the latter, to apply enough heat to kill all the bacteria, but with the least possible undesirable change. Chemical preservatives in milk are considered injurious to health, and are forbidden by pure-food legislation in many States. What is commonly known as the richness of milk depends upon the amount of butter-fat it contains. There is so much difference in the composition of milk from different cows that many large butter and cheese factories now test all the milk they buy, and pay for it according to its butter-fat content.

Mother's milk is best adapted by nature to the nourishment of infants. Cow's milk is the most common substitute, and when necessary is artificially modified to make it resemble human milk.

The value of milk for adults is in combination with other foods, not as a beverage merely, but to supply in part the material needed for the body.

Unless exceptionally high prices are paid for it, milk is fully as economical a source of nutrients as other animal foods, but dearer than most

staple vegetable products. Milk, however, requires no preparation, has no waste, and is more thoroughly digested than most vegetable foods. As a source of protein, the most expensive of the nutritive ingredients, it is especially economical. Skim milk, which is whole milk minus part of its fat, and which costs only half as much as whole milk, furnishes protein about four times as cheaply as beef. Foods prepared with either skim or whole milk are much more nutritious than those prepared with water.

Feeding Whey to Calves.

Editor "The Farmer's Advocate":

Regarding my experience in feeding whey to calves, I raised two last year, and am raising six this year. I fed them new milk for two weeks, then gradually changed in the next two weeks to skim milk, including a little oil cake and low-grade flour. I mix the oil cake in boiling water first, then add the milk and whey, then stir in the flour. Next month, change from skim milk to clear whey, with oil cake and flour. I also gave them dry shorts and oats, as they would eat, and kept them in the stable till July. Now they are out on grass, and am giving them whey only, about six quarts each, and they are thriving nicely, and have had no drawbacks. I would say that the whey is pasteurized, and is usually warm at night, when fed. I clean my tank once a week, which prevents it from getting very sour.

Oxford Co., Ont. FREEMAN N. LAMPMAN.

Pasteurized Whey for Calves.

Editor "The Farmer's Advocate":

In reply to your enquiry, re feeding whey to calves, I would say that I have had three years'



Maker's Residence at Bright Factory.

experience. The whey was pasteurized and fed warm and sweet. I commenced feeding when the calves were three months old, being fed on new or skim milk before that time. Have fed about thirty calves. They received each about 10 lbs. at first per day, and gradually increased to 20 lbs. at six months or older. Be careful not to overfeed or it will produce scours, and never feed sour or cold whey if you can help it. The calves seem to relish it much better than water. As to the amount of growth, I could not say, as they were fed on silage, hay, oil meal and oatmeal, in addition to the whey, which formed the drink. I think the whey would be worth one-third the value of skim milk.

Oxford Co., Ont. E. E. PETTIT.

Model Cool-curing Room at Bright Cheese Factory.

A cool-curing room, built according to the specifications of Dairy Commissioner Ruddick, is to be found at the Bright Cheese and Butter Co.'s factory; maker, R. Johnson. The curing-room is 28 x 70 feet, with a 12-foot ceiling, which, however, is higher than necessary. Nine rows of shelves afford capacity for over 1,000 cheese. At the end of the curing-room is an ice chamber about one-third the length of the room in which the cheese are contained, the same width, and three feet higher. The air delivered from the curing-room passes over the ice, down behind it, and underneath the false bottom which supports the ice, being again delivered into the curing-room through two vents near the floor, about 18 x 10 inches in area. Slides regulate the draft. The return flues run along the ceiling, commencing at the end of the curing-room, remote from the ice chamber, and emptying into it as above indicated. By this system the air in the curing-room can be maintained at a temperature of about 58 to 60 degrees, pretty uniformly throughout the season, at an expenditure for ice of about \$50 or \$60 per year. The only attention required is the occasional shifting of the slides and watching of the thermometer.

The close body, silky texture and mild, clean flavor of the cheese as bored in the middle of July yielded convincing evidence of the effect of cool-curing on the quality of the goods. Chief Dairy Instructor Hens thinks if we had such curing rooms at all our factories, the price of cheese would advance 3c. per pound, besides a considerable saving in shrinkage, amounting in hot weather, perhaps, to a pound on the cheese, depending, however, upon the length of time the cheese remained in the curing-room. A ventilator in the center of the room provides for an occasional change of air. This is opened about twice a week, the doors of the curing-room being opened at the same time to give a draft. Sulphur is burned two or three times a week to guard against the development of mold.

One of our illustrations shows the house provided by the Bright Cheese and Butter Mfg. Co. for its maker. The day has gone by when a competent cheesemaker can be employed to make for a mere living wage and live over the make-room of an insanitary factory. A modern, comfortable house of this kind is a strong inducement for good men to remain in the business.

Cow-testing Revelations.

In one cow-testing association the average production of 126 cows was 520 lbs. milk and 20 lbs. fat, not very much below the average of exactly 126 cows in another association close by, which was 609 lbs. milk and 26 lbs. fat. But notice how tremendously that comparatively small difference affects the total yield; for in the one case the 126 cows gave in the month 86,845 lbs. milk and 3,267 lbs. fat, but the other lot of 126 cows gave only 65,546 lbs. milk and 2,510 lbs. fat; or, allowing butter-fat to be worth 25 cents per lb., actually a difference of \$189.25 in one month. Why are not thousands more of our dairy cows made to earn an extra dollar and a half per month for their owners? When the owners are perfectly certain, through having tested each cow in the herd individually, which animals are bringing in a good profit, then the average yield and the total income can be largely increased.

Another contrast shows that 100 cows in one association produced just twenty-seven pounds of fat less than 72 cows in another association ten miles away; there were thus 25 cows more to be milked, and to have capital locked up in, and to tramp round on the pastures eating good feed that the other cows could have used to better advantage, for twenty-seven pounds less fat. Weighing and testing is the quickest and surest way of detecting those that are below par value.

Ottawa. C. F. W.

Pasteurization and Bitter Flavor.

In a tour of thirteen cheese factories in Western Ontario, in the middle of July, where, two years ago, in July, 60 per cent. to 75 per cent. of the cheese had either a bitter flavor or a tendency to bitter flavor, this year only two batches of twelve cheese were noticeably affected.

At all these factories pasteurization of whey has been adopted, some, of course, doing it better than others—first, from the fact that some makers are more careful than others; also, some factories are in a position to dispose of all the surplus whey each day, which others are not, thus insuring in the former case that the sweet whey will not be run into small quantities of sour whey left over from the day before, thus acting as a culture, and helping to sour the new whey.

On the whole, the work has been very well done indeed, and as soon as makers and patrons understand better the conditions necessary for the proper pasteurization of whey, greater improvement will be shown.

The Influence of Pasteurizing on the Food Value of Whey.

In the June number of "The Farmer's Advocate," Mr. Frank Hems, Chief Dairy Instructor, Western Ontario, dealt with the practical points in pasteurizing whey, and showed some of the losses of food constituents that occur when the whey is not pasteurized. I have been asked to deal more fully with these losses, and I shall do so in as brief a manner as possible.

It is not necessary for me to restate the advantages of pasteurizing whey. Patrons and makers recognize the fact that there is a more even distribution of fat, and that, consequently, the patron gets the fat, instead of it being left in the whey tank. Patrons also know that the whey is sweeter and more palatable; that the cans are more easily cleaned, and that there are numerous other advantages.

It is a well-known fact that the feeding value of any food depends upon the amount of digestible protein, fat, carbohydrates and ash it contains, and upon its palatability. In this case we may assume that one kind of whey will be as digestible as the other, and that the advantage in palatability will be with the sweeter article. The chief difference in composition is shown in the following table:

	Pasteurized Whey.	Unpasteurized Whey.
Fat25	.09
Protein85	.85
Sugar	5.00	4.00
Acid40	1.15

The pasteurized whey contains the most fat and sugar. The increased acidity of the unpasteurized whey has been formed at the expense of the sugar, and, consequently, there is less sugar left in the sour whey. All digested food may be burned in the body to produce heat and energy, and if we calculate the number of heat units a hundred pounds of each food is capable of producing, we can make a closer comparison of the nutritive value of these two materials than is possible from the composition alone. The unit of heat is called a calorie. One pound of protein, or one pound of sugar, is capable of producing, when burned in the body, approximately 1,860 calories, and one pound of fat will give 4,220 calories of heat. Using these factors and the percentages composition given above, we find that a hundred pounds of pasteurized whey will produce 11,918 calories, while the unpasteurized substance will only give 9,837 calories. Or, the heat value would be in the proportion of 1.27 for pasteurized, and 1.00 for the unpasteurized whey. Consequently, if unpasteurized whey is worth 10 cents per hundred pounds, then pasteurized whey is worth 12.7; or, to carry the comparison further, the unpasteurized whey would be worth \$20 per ton of cheese (20,000 pounds of whey), and the pasteurized article would be worth \$25.40 per ton of cheese, a difference of \$5.40 per ton of cheese. The cost of pasteurizing will depend on the size of boiler, location of tank, method followed, experience in operating, etc., but Mr. Hems places the cost at 50c. to \$1.00 per ton of cheese (20,000 pounds of whey), or an average of 75 cents per ton. Deducting this from the \$5.40, we have \$4.65, or over 20 per cent., as the increased value of the pasteurized over the unpasteurized whey from one ton of cheese. In addition to this, there is the satisfaction of working with a cleaner article of food, and of knowing that better use is being made of this valuable by-product of the dairy.

Another point of interest in connection with milk and its products is the distribution of the constituents of milk in cheesemaking. It is frequently stated—and correctly, too—that, in making cheese, nearly one-half of the milk solids are lost in the whey. This is certainly a good reason why the very best possible use should be made of the whey. But, when this statement is made, it is not always made clear that the most expensive part of the solids are recovered in the cheese. The following figures, taken from Snyder's book on Chemistry of Dairying, shows the distribution of the various milk constituents in the whey and cheese. Two examples are given. In the first case the milk contained 3.5 per cent. of fat, and the second 4.00 per cent. of fat.

EXAMPLE NO. 1.

	100 pounds milk.	Loss in whey.	Recovered in cheese.
Water, lbs.	87.52	80.97	3.65
Solids, lbs.	12.48	6.23	6.25
Ash, lbs.	0.80	0.52	0.28
Fat, lbs.	3.50	0.30	3.20
Casein and albumin, lbs.	3.22	0.81	2.38
Milk sugar, lbs.	4.80	4.35	

EXAMPLE NO. 2.

	100 pounds milk.	Loss in whey.	Recovered in cheese.
Water, lbs.	86.79	80.89	3.59
Solids, lbs.	13.21	6.11	7.11
Ash, lbs.	0.64	0.40	0.24
Fat, lbs.	4.00	0.34	3.66
Casein and albumin, lbs.	3.71	0.81	2.90
Milk sugar, lbs.	4.50	4.30	

In the first case, where there was 3.5 per cent. of fat, the solids were almost equally divided, and in the second there was one pound more solids in the cheese than in the whey. But if we look more closely, we find that the expensive proteids, casein and albumin, and fat, make up nearly all the solids of the cheese, whereas the whey solids are nearly all sugar. If we compare the heat value of the solids in the whey and cheese, it will be found that we have 10,919 calories of heat in the whey from one hundred pounds of milk, and 18,132 calories in the cheese; or, 37.5 per cent. of the heat value is in the whey, and 62.5 in the cheese. In the case of the 4-per-cent. milk there is 10,934 calories of heat in the whey, and 20,839 in the cheese; or, 34.4 per cent. of the fuel value is in the whey, and 65.6 in the cheese. Consequently, while approximately one-half by weight of the milk solids are lost in the whey, this only represents a little over one-third of the fuel or energy value of the milk. This is certainly a very large proportion, but it is evident that it is not correct to assume that, because one-half of the milk solids go into the whey, one-half of the food value goes with it. It is also very clear that, if one-third of the food value of the milk goes into the whey, this product should be treated so as to recover the largest possible amount of nourishment from it; and, apparently, pasteurizing is one step in the right direction.

O. A. C., Guelph.

R. HARCOURT.

Milk Records in Scotland.

Milk records have come to stay, but it is always well to be adding to the stock of evidence in support of their utility, says the Scottish Farmer. A gentleman with strong commercial instincts, who farms for amusement, was so convinced of the soundness of the arguments for a regular milk record being taken of all his cows, that he established a daily milk record in his herd of Ayrshires. His foreman scouted the idea, and carried through the work in an attitude of non-committal and scarcely veiled contempt. He ostentatiously left the taking of the record "to the women," and, as he was otherwise a faithful servant, his master left him severely alone. The sheets were handed regularly to the owner, and the totals were known to him alone. The foreman did not consider them worthy of notice. "It was just a fad." By and bye the foreman desired to take a little farm of his own, and approached his master desiring to purchase some of his cows. One in particular he was very anxious to have, and that one, although she was for sale, his master resolutely refused to sell to his old servant.

The latter could not understand the attitude, and asked an explanation. His master asked him how much milk did he suppose that cow was giving? He did not know for certain, but "she was a guid milker, and he supposed the return might be from 700 to 800 gallons." His master informed him that he had been caught in his own snare. If he had wished to do him an injury, he would have sold him the cow. Her return was 486 gallons, and there was no prospect of improvement, as the returns attested by his own wife showed. The servant thanked his master, and subsequently came and inquired where he could get "yon kin' o' weighing things," as the wife and he were thinking there was something in the milk records after all.

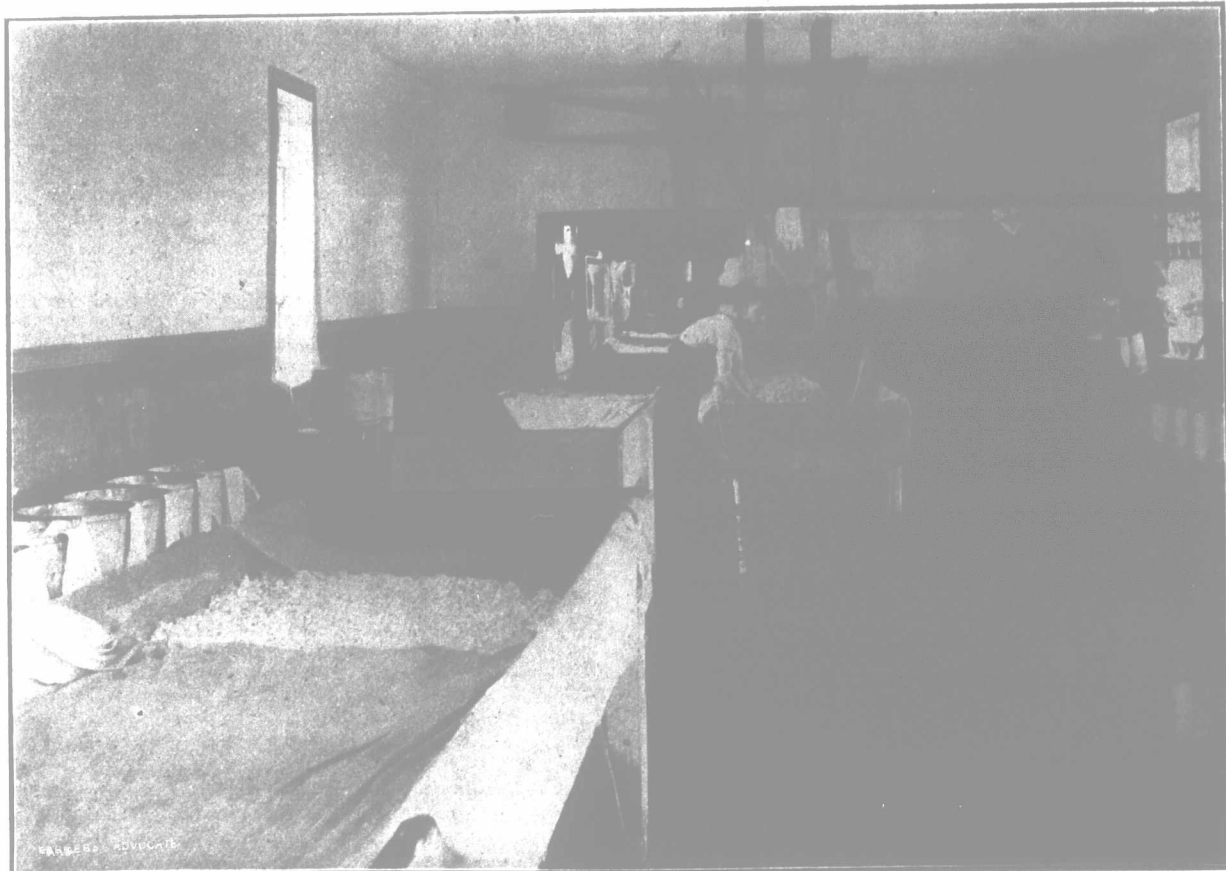
Dairy Odds-and-ends.

So far, we have not heard of any creameries closing down, or of any dairyman disposing of his cows because of the report that butter has been made from petroleum. It is just as well to wait a while before taking any decided step in this direction. The petroleum-butter story looks like a fake, and on a par with many others that have crossed the path of the dairyman in years gone by. The story goes that some chemist had occasion to use a churn, in which some petroleum products were revolved, and, to his great surprise, the result of repeated revolutions was the production of a fine quality of butter. Its score on flavor would be worth knowing.

Whether Canadians can learn anything by a study of how the Danes have captured the British bacon trade, and continue to produce hogs in increasing numbers, or not, notwithstanding the fluctuations of the market, they are able to teach us something in dairying and cow-keeping. The report of a Danish creamery that has been in operation for 25 years, shows that in 1884 it took 28.9 pounds of milk to make a pound of butter. To-day the average is only 25.8 pounds of milk to get one pound of butter. In 1884, at this same creamery, the milk delivered averaged 3,817 pounds per cow. In 1908 the average had increased to 5,883 pounds per cow. In 1884 there were 51 patrons and 400 cows; now there are 260 patrons and 1,700 cows.

Some investigation, done at a Michigan creamery last season, shows some startling results. The lowest return was \$22 per cow for the season. This patron received 76 cents for every \$1.00 expended on feed. Another patron received \$79 per cow, or \$1.95 for every dollar expended on feed. And so it goes. The profitable and unprofitable cow can be found in every cheese factory and creamery. The two patrons, as above, live only one mile apart.

In testing cows, and finding out which are the good ones, a dairyman cannot be perfectly sure of his ground unless he takes into account the cost of feeding his cows. Take the two cases quoted from Michigan, if judged by the cash return from the creamery alone, one herd gave a return 3½ times greater than the other. But if



Cheesemaking room at the Bright Cheese and Butter Factory, Bright, Oxford Co., Ont.

the comparison is made on the returns for every dollar expended on feed, the one herd is only 2½ times better than the other one.

* * *

This does not mean that cows should not be well fed. The only way to get profit out of a cow, if there is any profit in her, is to feed her well. Note the Michigan comparison again. The poorer cow, though it cost less to feed her than the good one, caused her owner a loss of 24 cents for every dollar expended on feed. The other cow returned a profit of 95 cents for every dollar expended on feed.

* * *

Makers who intend exhibiting cheese or butter at the fall exhibitions should pay strict attention to the little things that make the exhibits attractive. Regarding the manufacture, we have nothing to say just here. There are, however, little things connected with the finish of a cheese, or the neatness of a package of butter, that count for a great deal with the judge. At the larger exhibitions there has been a marked improvement in the finish of cheese in recent years. Last year, at Toronto, several packages of butter were scored down because of broken surface, due to careless packing. Above all things, have a nice even, smooth surface for the judge to put his trier into. First appearances count for a good deal.

W. J. W.

POULTRY.

Poultry-producers' Association.

A meeting of the Poultry-producers' Association of Eastern Canada was held at Ottawa, July 13th and 14th, and the "Objects and Aims of the Association" was the subject of the address by Mr. A. P. Hillhouse, President, which was as follows:—

Although we do not hope at first to revolutionize or change the whole poultry industry, we do hope to remedy certain existing conditions which are greatly to the disadvantage of the industry as a whole.

The backbone of the poultry industry is the farmer on the farm, and although poultry plants now and in the future may contribute their share, yet for some time fully ninety per cent. of their products will owe their origin to the farm, so one of our first aims will be to assist farmers.

Most farmers are small producers of eggs and poultry, and owing to the light weight and perishable nature of these products they do not produce enough individually to make frequent and regular shipments to distant or best markets.

To assist these conditions, we consider that a co-operative system might be established in various localities and eggs and poultry brought in to a central packing and shipping point. At present farmers have individually small lots that cannot be marketed till they are stale. These could be gathered together and would make a sufficient parcel to be shipped while still fresh. This would do away with the present wasteful system most universally practiced in all parts of the country, of marketing eggs at the village grocery in exchange for goods. No attention is given to age or quality; they never reach the consumer until long after their best is passed. The egg is at its best when just laid, and the longer time taken in putting it on the consumer's table the less it is worth.

Then by establishing grades for these eggs we believe the whole trade will be greatly improved. We do not want the saying that "an egg is an egg" to continue. We all know that there are vast differences in eggs, and we want people to say these are "Selects" or No. 1, from Stanbridge, from Farnham or Bondville, as the case may be, and we want them to be selects and No. 1. We do not want there to be any question but that they are just what they are represented and graded to be. We want the dealers and consumers to be able to order whatever grade they want, knowing that they will receive that grade and pay for it, and get value for what they pay.

The same with poultry of all kinds. We want more produced of the better quality and less of the poorer; more sold at a profitable price and less at an unprofitable price. This is in the interest of the producer, dealer, consumer and the country.

The farmer should not sell his poultry for seven or eight cents a pound as they run, when by two or three weeks more of crate-feeding double this price might be obtained. Farmers fatten their cattle and their hogs. Why should they not fatten their poultry? There is no place where they can be fattened better and more economically than on the farm. It will not take any more time feeding for fattening than it has taken feeding for all other stages of their growth, and one of the most essential feeds for this purpose, skimmed milk, is usually found on the farm.

We have been looking up the reasons why more of this is not done on the farms, and we find the chief difficulty seems to be the lack of experience

in killing, plucking and packing, quantities too small for even cases, lack of knowledge of the markets, and the feeling of uncertainty that exists between the producer and the consumer.

Under our proposed system of co-operation with central packing and shipping centers all those difficulties will be overcome. Farmers will not be required to do the plucking, packing or shipping, and will know that the marketing will be handled capably and satisfactorily for them.

At present it is not the intention of the association to buy and sell the produce of the branches, but to assist in the bringing of the consumer nearer the producer. This may be done by shipping as direct as possible, and through as few hands as practicable. All members will not receive the right to the use of the brand of the association, except where there is a local branch and the produce is shipped through the local manager, or, perhaps, in exceptional cases, where the individual may not have co-operation privileges.

The gradings may be severe, but none too severe for an association that wishes to have its brand stand for the best.

It is not expected that the association will market large quantities under the brand this year. It will rather pay more attention to quality than quantity.

The following were the grades for dressed poultry and eggs adopted by the meeting, and also rules governing members:—

DRESSED POULTRY—SELECTS.

To consist of specially-fattened chickens, extra well fleshed, and of superior finish and appearance, unbroken skin, without blemish, straight breast bone, and neatly packed in packages that hold one dozen birds; the package shall be made after the plan recommended by the Department of Agriculture and illustrated in Bulletin No. 7. One package shall include only birds of a uniform size and color of flesh and legs.

NO. 1.

To consist of well-fleshed chickens of neat appearance, straight breast bone, no disfigurement; packed in neat, strong boxes.

NO. 2.

To consist of fairly-fleshed chickens, packed in neat, strong packages.

The term "chicken" shall mean all birds under seven months of age.

POULTRY.

Meaning birds not over two and a half years old, shall be graded the same as chickens, but shall be marked fowl, and must not be mixed with chickens.

Cocks must not be included in these grades. Birds that have been sick or show any indication of disease; birds that have food in the crop, that have decidedly crooked breast bones, that have blood or other dirt upon their bodies, shall not be included in these grades.

All birds must be dry-plucked, gradually but thoroughly chilled before packing, not dipped in water. Put on the market undrawn; having head and feet on.

GRADES OF EGGS—SELECTS.

To consist of strictly new-laid eggs, weighing not less than twenty-four ounces to the dozen. Clean, of uniform size and color, packed in substantial and neat cases having clean fillers.

NO. 1.

To consist of new-laid eggs, not less than twenty-two ounces to the dozen. Clean, fairly uniform in size and color, packed in substantial neat cases with clean fillers.

During the months of November, December and January, the weight clause shall be reduced by two ounces.

NO. 2.

To consist of new-laid eggs. Packed in substantial cases.

All eggs must be marked with the registered trade mark.

RULES FOR MEMBERS OF BRANCHES.

1.—Each member should bear in mind that the aim of the Association is not only to get better prices, but to raise the standard of poultry produce and to make the trade mark an absolute assurance of quality.

2.—All produce of a Branch must be shipped through the central depot, and the packages must bear the trade mark, grade and number of the Branch.

3.—The manager is responsible for the output of the Branch. He must see that all grades are properly marked, and that all members get full value for produce offered. In case of a buyer's complaint against a Branch, the manager must be able to trace the misdeed to the member.

4.—Members must abide by the manager's rating of the produce, and adhere to all by-laws of the local Branch; shut up or otherwise dispose of all male birds, except from January 1st to June 15th; offer for sale no eggs except those laid by his own hens, and what may be contained under the three grades mentioned. This excludes eggs

that may have been laid twenty-four hours before gathered, eggs that have been found under sitting hens; in fact, all eggs that cannot be guaranteed as absolutely fresh.

5.—None but artificial eggs must be used for nest eggs. Eggs must be gathered at least once every day, and must be stored in a clean room, free from any deteriorating influences, and of a temperature not to exceed sixty degrees.

6.—Eggs must be delivered to the collector, or brought to the central depot as often as requested by manager.

7.—No egg on hand but not delivered at any collection shall be offered at next collection.

8.—No birds shall be offered for sale that show signs of disease or are known to be diseased.

9.—Any member found guilty of violating any of the foregoing shall, on the first offence, be fined not less than one dollar, and in case of a second offence be expelled.

F. C. ELFORD, Secretary.

APIARY.

Races of Bees.

In the State of Massachusetts, according to a bulletin recently issued, there are 1,050 beekeepers, the average number of colonies per beekeeper being but 5.5. There are but two beekeepers in the State who report having 100 colonies or over, and very few who have even 50 each. This lack of beekeepers who make a specialty of the business, and who are experts in it, is accountable, according to the writer of the bulletin, for the small yield of honey per colony. This is given as amounting to only 24 pounds. One object of the bulletin is to increase interest in the bee industry and give needed information, so that both the yield per colony and the average number kept may be greatly increased. We quote entire what is said about different races of bees:

Among the bees of Massachusetts are found representatives of those kept in all parts of the United States. They occur only in relative degrees of purity, due to the fact that young queens often mismate. "Hybrid" means any cross between recognized races, but more particularly and generally the cross between Italians and Germans.

ITALIAN BEES.

According to the data at hand, 594 beekeepers say they have Italians. This does not mean pure Italians in every instance, but it does indicate that practically half of the beekeepers who reported have Italians—a highly encouraging condition. Furthermore, 342 report they have hybrids, which may almost universally be interpreted as a cross between Italians and Germans. By adding this to the number who report Italians, it makes 936, or about 80 per cent. of those reporting, who have some Italian in their hives. This clearly demonstrates the popularity of the race.

There are several strains of Italians, such as "long-tongued," or "red-clover," and "golden," or "five-banded," and the like. Although these strains are all found in Massachusetts, data concerning them is not sufficient to decide their relative merits or popularity.

GERMAN BEES.

Pure German or black bees are exceedingly scarce. In the County of Worcester the writer has seen what he believed to have been the pure-blooded Germans; but these colonies are seldom met with. Although 196 persons report that they have German bees, there is as much or even more doubt that these are strictly pure as there is doubt that all of the Italians reported are pure. This race, at least in Massachusetts, is destined to be supplanted by the Italians, although some beekeepers still complain that their Italians are constantly being crossed with blacks.

CARNIOLAN BEES.

This race, from Carniola, Austria, is not generally used in Massachusetts. Many who were interested when it was first introduced into America, tried it, and since discarded it; but 34 persons, or 3 per cent., reported having it in 1906.

OTHER RACES.

Practically every other race of bees known in the United States is on trial in Massachusetts. Several mention the newly-introduced Caucasians. The Punic, Cyprian and Banat bees are also reported.

Considering the races by localities in the State, it is difficult to see that either the Italians or the Germans are more common to any one section than to another. Italian blood tends to predominate. Personal observation, however, shows that hybrids or the more purely German are found in the back country, where newer methods of beekeeping usually receive less attention; the pure Italians and more recently-introduced races are found near the large communities.

GARDEN ORCHARD

Orchards of Europe.

Professor John Craig, who spent some months in Europe not long ago, thinks that it is not likely that the apple crop will be overdone in this country. The increase of the consuming population is keeping pace with the increase in the quantity of apples produced, and is likely to continue to do so. There is a vast mass of the population that never gets the chance to buy good Canadian or American apples, and one of the problems of fruitmen is how to reach these.

The home-grown crop of Europe is never very large. There are a large number of orchards, no doubt, but none of them are on a large scale. Commercial orchards, such as are found on this side of the water, are unknown there, and for many years to come there is little likelihood of change. They are wedded to their own ways.

Professor Craig is of the opinion that shipping in barrels, which is the almost universal practice still, tends to lower the grade of fruit and injure the trade. The box, on the other hand, makes for fine fruit, and it would be in the interest of fruit-shippers to yield to the sentiment in favor of boxes, and change to that style of package as soon as possible.

He thinks that the methods of sale and distribution might be improved upon. Prices at auction rooms vary so little that there is the suspicion that buyers agree beforehand on the prices to be offered for imported fruit. Very few of the apples received in the large seaport towns ever reach consumers in the country, but are consumed in the cities to which they are sent.

Shipping Strawberries to Winnipeg.

Editor "The Farmer's Advocate":

In reply to your inquiry in regard to the shipments of strawberries to Winnipeg by our Association, would say that, when we learned that the canning factories did not feel inclined to offer the growers a living price for the crop, inquiries were made as to the methods used by the Southern growers in shipping their berries to Toronto and elsewhere. The Department of Agriculture at Toronto, through their officials, assisted us very materially by obtaining information not available to us, and also gave us all of their own experience. We decided to try different methods, and not to spare expense, so as to prove conclusively whether our berries could be shipped successfully or not, as we were met by statements from many of our leading growers and shippers that our berries would not carry so far and hold up long enough to be fit for sale. The first shipment was made on Saturday, June 26th, in a G. T. R. refrigerator car, cooled first by icing for 20 hours previous to loading, and then chilled by turning the cold air of our cold storage into the car for two hours after car was loaded. Berries were nearly all picked only partially ripe. Car was shipped via southern route, G. T. R., Chicago & Northwestern, Great Northern and Canada Northern, and reached Winnipeg on schedule time, Thursday noon, July 1st. Berries opened up well, and sold July 2nd at remunerative prices. The second shipment was made on 28th June, via boat from St. Catharines, at 2 p. m., to Toronto, and Dominion Express to Winnipeg; reached destination on June 30th, and also sold fairly well, and netted better prices than were obtained at home. The third shipment was made on June 30th, and were loaded in a Dominion Express ventilated car, on St. Catharines and Niagara Central Ry., at 4 p. m., and shipped to Welland, thence by T. H. & B. to Hamilton, and C. P. R. on express to Winnipeg, arriving at 2 p. m., July 2nd, too late for many to be sold that day. On account of a full carload being placed on the market so late in the week, and buyers being afraid to purchase freely, fearing that the berries would not hold up and sell, and that by Monday they might be a total loss, some in this car did not bring as good prices as they otherwise would, and did not net the growers as much as the other cars. Forty-two growers placed berries in some of those cars, showing their willingness to help open up this market, and take the risk, in the face of adverse criticisms, as they were told time and again that the berries would arrive rotten.

Both the railway officials and the express superintendents showed their willingness to assist by, not only their personal oversight, but telegraphed ahead so as to secure all due care that these cars arrive on schedule time.

As to the conclusions to be drawn, and the outlook for the future, I can say, after following those cars out, and interviewing many of the retailers, and also the consumers, that many of the Winnipeg people were as skeptical as to the safe arrival of their berries as our own people, and bought them with fears for their profits. But, after handling them, and using and canning them, I was told repeatedly that they were the best berries they ever handled or ate, and they are

prepared to purchase in larger quantities another season. One large firm are prepared to purchase next season by the carload. I met a party who purchased and ate some of those berries that were forwarded to Saskatoon, and he said that they were in good condition.

As for the best condition to have the berries picked, and way to ship, we are working out our conclusions from the results of each shipper's returns, as careful notes were kept of condition of ripeness, and quality and size of berries in each lot. Many improvements can be made another season, and we confidently look forward to our berries going West in the future at the rate of two or three carloads per day.

Our Association have also been sending daily large consignments of sour cherries and currants, which, arriving in good condition, sold at remunerative prices.

ROBT. THOMPSON.
Pres. St. Catharines Cold-storage Co.

THE FARM BULLETIN

Household Conveniences.

Editor "The Farmer's Advocate":

I am glad that in a recent number of "The Farmer's Advocate" you have an editorial on this important subject. You refer to those who have every convenience as pertaining to the farm and stock, but little or none in the home. You speak of the danger incurred from those in the home of having to run out for wood and water, which I think we must all admit. Those in the average farm home have plenty to do without having wood and water to carry. These can be had convenient without very much expense, and it is to be hoped that where they are not, the men folks will see to it that they do the carrying. The question of wood supply is too frequently neglected, and, as a consequence, green or wet wood is too often what is used. Not only should the drinking water be close to hand, but the soft water likewise. There is really less excuse for not having the latter than the former, as in these days of cement a cistern is easily built. Our own is in one corner of the cellar. At first we used the outside stone wall of the cellar, covered with a coat of cement for one end and one side of the cistern, but the frost seemed to loosen the cement, so we next lined the whole of it with brick and then cement over this. It is not necessary to have such a cistern directly under where you want to have the soft-water pump, as the leaden pipe leading to it can be bent and carried in any direction. When said pump, with the sink or water-basin, is in the kitchen, it saves a "power" of running, or walking, if you choose. It is to be hoped that none of your readers will overlook your other editorial, in your issue of March 4th, entitled "Household and Home." It will bear re-reading. I feel sorry when I see the conditions in many a country home. These "are improving" you say, "but there is yet room." "The twentieth century," you say, "is emphasizing the gospel of leisure; leisure not only for rest, but for culture, intercourse and pleasure. Like most other developments, this idea has reached the city before the country, but gradually it is permeating the rural districts." We rejoice that this is so, but sorry that it does not permeate faster. I cannot but think that if those in the country are inclined to envy those in our villages and towns, it must be the time these find for leisure or recreation. Is it not possible for the goodwife and mother in the country to get through with the housework early after dinner, and then sit down in a change of linen and enjoy herself, as is done now largely in towns and villages?

You say, truthfully, it would do some of us good to take a look into a modern city home, with its bath-room, sewage arrangements, soft and hard water, both hot and cold, designed to make housework easier and life more livable. I sometimes think things are pretty convenient at "our house," with the soft water in the winter kitchen, the hard in the summer kitchen, a furnace in the cellar, with wood at its very door, and coal for the kitchen stove within a few steps of it, yet when "our folks" come back from a visit to the city, it is with favorable comments with the handiness of things there. In all our planning for conveniences, either within or without the home, let us avoid making more steps than necessary. In our younger days we think nothing of walking a few extra steps, but it is a mistake to have to do it. Some buy a home outside of the town or village limits, so the taxes will be less; as they grow older they find their mistake, often when it is too late to change. To avoid extra steps, I would have the barn and stables as close to the house as is consistent with sanitation. I have in mind one party who owns a small lot on the outskirts of a growing city. His stable is at the back end of his lot—I should judge about two hundred yards away. Let us figure a little. When making this trip, three times a day, he walks a little over two-thirds of a mile. He has only to keep this up for twenty-five years to have walked more than the diameter of this globe, just

going to and from this stable alone. In the country there is so much walking that must be done, let us lessen it when possible. No doubt the want of conveniences in the country, coupled with the long hours of labor, is the reason why help, both in the home and on the farm, is becoming more difficult to procure. A young man I know was working in town; ten hours was his day's work—long enough, too—but when six o'clock came he knew he was through for that day. This was during the spring months. When June came he went in the country. While there it was early and late, and what was the consequence? He returned, never to go back, and can you blame him? Too frequently on the farm the help are expected to do all the chores, milking included, before 7 o'clock in the morning and after 6 in the evening, with a short noon hour. We know there is so much to do in the summer on the farm that one feels constrained to do more and expect others to do more than they should. If we want to keep our hired help, both on the farm and in the home, the sooner we get down to the ten-hours-a-day system, and have less in the home, the better. Our sympathy goes out more to the workers in the home, as there is more monotony there than for those outside. Sandy Fraser puts it very quaintly when he says: "Maist o' the time, though, it's the wumman o' the hoose that goes under first, she havin' tae wark inside maist o' the time, and gettin' no change frae day to day but aye washin' the same dishes in the same dishpan, and sweepin' the same floor wi' the same broom, an' forty-seven hundred ither things, till at last she can dae na more." I think some of us are apt to forget just this fact, and fail to help also when we might. May we all endeavor to have everything as convenient as possible, not for ourselves only, but more particularly for those in the home.

G. A. DEADMAN.
Huron Co., Ont.

Essex County Farm Notes.

Harvest is under full headway in this part of Ontario. Crops are apparently a little above the average. Hay was exceptionally good, both as to quantity and quality. With ideal weather, the great bulk of hay has been secured in excellent condition. Wheat is nearly all cut (July 26th), and the sound of threshing vibrates through the air. The yield, so far as can be ascertained, is beyond the most sanguine expectations of the seldom-to-be-discovered optimistic husbandman. Owing to adverse conditions, caused by heavy rains and subsequent dry weather, the soil required a great amount of labor to produce a seed-bed suitable to germinating. The season was, therefore, considerably advanced before farmers were able to finish wheat seeding. There being little or no growth before the close of season, the wheat was apparently in no position to withstand the rigors of a Canadian winter. Early spring weather was not conducive to rapid growth, making the prospects for a good crop very meager. In many instances farmers, as a supplement, sowed spring grains, but despite the unfavorable weather and discouraging appearances, wheat has yielded an abundant harvest.

The sample is excellent, grain being plump, bright and clear. With prices ranging around the dollar mark for new grain, farmers are to be envied. The straw, which has been well saved, ought to form a valuable acquisition to rough fodder.

In almost every section spring grains give evidence of a fairly good yield, although some fields have a spotted appearance, owing to prevalent and widespread wet weather during May and first two weeks of June. But to a greater extent, the damage wrought is the result of poor drainage. A splendid object lesson has been placed before our farmers, from which they may draw valuable conclusions, as to the advisability of attempting some more economic system of draining. Fields properly underdrained, situated beside others equally as fertile, by the easily-to-be-recognized difference in growth, color and promise of larger yield, ought to impress upon farmers the profitableness of adopting, as speedily as possible, some systematic policy of freeing the soil from surplus water, and also securing a more equal distribution of moisture, to be utilized in dry weather, by growing grasses and cereals. The system of sowing mixed grains, as oats and barley, pursued by some farmers, has somewhat overcome the destruction wrought by over-abundant rain during seeding or immediately following the sowing.

Peas are not sown extensively in Essex, and those sown are mainly for hog pasture. All crops are much later this year than last, but none more so than field corn, which is the staple crop of our county. While almost three weeks later in growth, comparing with same date last season, yet there is an excellent showing. Should we be exempt from early frosts, there is abundant promise of a liberal harvest, both in grain and fodder, of this very remunerative crop. But here, as elsewhere, the farmer has means at his disposal to assist in securing a larger increase in returns. By continuous, constant, careful cultivation during the earlier stages of growth in corn fields, a more

uniform, profitable and perfect development may be obtained. No work performed upon the farm gives more ample rewards, both for present and future, than the steady employment of the cultivator.

Not only is it necessary to destroy pernicious weeds, which rob the corn of required nourishment, but also constant disturbing of the soil attracts a larger amount of moisture from the atmosphere, while it lessens the process of evaporation. This is especially true before the crop has reached that stage where its wide spreading leaves afford protection from the penetrating rays of a July sun. Then by such a thorough process of cultivation superior conditions are secured for the development of a crop.

Large quantities of vegetables are being produced in Southern and South-western Essex this year, mainly onions, cucumbers and tomatoes, for which farmers and gardeners find a ready market, with ample returns, at the various canning and pickling establishments situated in the county. By a system of contracting, the producer is insured against loss from over-production, while the purchasers are assured of receiving approximately the quantities required for carrying on a profitable business. Owing to frequent showers during past few weeks in the section of country more largely devoted to this form of industry, possibility of failure through drouth has been avoided.

Root crops are not so flourishing. There is an apparent failure on the part of many farmers to recognize the value of mangels or turnips as food for stock, and, therefore, a very small acreage has been sown.

The yield of small fruits so far has been very good, while prices are extra. Supply up to present has not equalled the demand. Retailers are experiencing considerable difficulty in meeting the wants of their customers.

The pork business, as in other localities, is almost at a standstill. While prices are extravagant, there are, at present, very few hogs suitable for market. Many fine herds are to be seen when driving through the country that are awaiting the forthcoming of necessary food to bring them into required condition.

It is the consensus of opinion that this will be a record year, so far as farming products are concerned, for our county. A. E.

End of Foot-and-mouth Scare.

A copy of a ministerial order has been received from the Veterinary Director-General at Ottawa, which removes the last remaining restrictions imposed in connection with the outbreak of foot-and-mouth disease in the United States last winter. The document reads as follows:

The order made under "The Animal Contagious Diseases Act," on the third day of May, one thousand nine hundred and nine, in so far as the same affects the importation of hay, straw or other fodder from the States of New York, Pennsylvania, New Jersey, Michigan, Maryland and Delaware, is hereby rescinded.

Dated at Ottawa, this twenty-seventh day of July, one thousand nine hundred and nine.

Supplementary Ontario Fall Fair Dates.

Caledonia	Sept. 31st to Oct. 1st
Cornwall	Sept. 9th, 10th and 11th
Drayton	Oct. 5th and 6th
Gravenhurst	Sept. 30th and Oct. 1st
Holstein	Sept. 28th
Mildmay	Sept. 27th and 28th
McKellar	Sept. 28th
Meaford	Sept. 23rd and 24th
Orono	Sept. 16th and 17th
Port Elgin	Sept. 30th and Oct. 1st
Queensville	Oct. 5th and 6th
Woodstock	Sept. 22nd, 23rd and 24th

Some 1909 Fair Dates.

Alaska-Yukon-Pacific Exposition, Seattle, Wash.	June 1 to October 15.
Canadian National Exhibition, Toronto	August 28 to September 13.
Western Fair, London, Ont.	September 10 to 18.
Sherbrooke, Quebec.	August 28 to September 4.
Canada Central, Ottawa.	September 10 to 18.
Fredericton, N. B.	September 11 to 23.
Halifax, N. S.	September 25 to October 2.
Ontario Winter Fair and Horse Show, Guelph.	December 6 to 10.
Eastern Ontario Live-stock and Poultry Show, Ottawa.	January 17 to 21, 1910.

Those farmers grow richest, and enjoy their occupation best, who use the land for the purpose nature intended, and at the same time exercise their brains in working it. To such men "The Farmer's Advocate" is a necessity. There are enough copies for everyone, so let the neighbors know.

Death of Hon. John Dryden.

Readers of "The Farmer's Advocate" throughout the Dominion, and far beyond, will learn with regret of the death of Hon. John Dryden, which took place at his residence in Toronto on July 29th, at the age of 69 years. Mr. Dryden was born in 1840, at Maple Shade Farm, Brooklin, in Whitby Township, Ontario, where his father, James Dryden, settled on emigrating from Sunderland, England. When twenty-three years old, John Dryden was elected to the municipal council of Whitby Township, where, as deputy-reeve and reeve, he served for seven years, retiring voluntarily at the end of that period. He was elected to the Ontario Legislature in 1879, and remained in the Legislature until the advent of the Whitney administration, in 1905. In September, 1890, Mr. Dryden was appointed Minister of Agriculture for Ontario. His practical farming and stock-breeding experience kept him in close sympathy with the farming community, and enabled him to accomplish many things which were of great advantage to his fellow agriculturists in the Province. As an importer and breeder of high-class Shorthorn cattle and Shropshire sheep, Mr. Dryden was well and widely known, and Maple Shade farm has long been a Mecca for visiting stockmen from many parts of the Dominion and



The late John Dryden.

the United States. Mr. Dryden was an ex-president of the Dominion Shorthorn Association, and of the American Shropshire Association, and a director of the American Clydesdale Association. He was a man of fine personal appearance, a quiet and kindly disposition, an unassuming manner, possessed of a rare degree of patience and tact, and, as a speaker, was always able to command the attention of his hearers on the platform or in the Legislature. Throughout his life he held strong views as a temperance man, steadily practicing what he professed in this respect. He was a prominent member of the Baptist Church, especially interested in its educational affairs, and was, at the time of his death, closely associated with McMaster University. His demise was not unexpected by those nearest to him, as he had been ailing for some considerable time. Mr. Dryden is survived by his widow, five daughters and one son, William Arthur, who resides on the old homestead, Maple Shade Farm. John Dryden will be long remembered, and his memory respected, for his zealous efforts for the advancement of agriculture and the improvement of live stock in his native Province, and for his excellent moral influence in the community in which he lived.

Tidings from Temiskaming.

Editor "The Farmer's Advocate":

On July 20th, haying in full swing; crop not up to the average, on account of very dry weather during June, but yet hay will average about one ton per acre. The long looked for rain arrived at last, and was greatly appreciated. Crops grew well, considering the dry weather, but since the rain growth has been phenomenal. Peas are out in heavy bloom, which presages a bountiful crop. Fall rye, which has been grown here as an experiment, has done remarkably well. It is now between five and six feet high, and well filled. But rye as a crop will not supersede wheat. Both fall and spring wheat grow well here. Both soil and climate seem to be well adapted to wheat, of which there is a larger

acreage sown than ever before. The fall wheat is filling well. Spring wheat has a very strong blade, and looks promising for a heavy crop; while oats and barley also look well. Potatoes, in general, here, are an excellent crop. Each one seems to have his own special way of planting. Some prepare the land by marking the rows out with a marker, and plant the sets on the mark, nicely hilling them over. Potatoes so planted do not look well. Potato land should be plowed the fall previous, and in spring, when dry enough, plow or disk over again, and work fine with the harrow until planting-time. Some, having large fields, adopt the method of planting with the plow, which, in my opinion, is just as good as any, being, besides, a very quick way to get over the land, all hands, even to the cook, with pails, planting. A good plowman can open out the drills about four inches deep, and, when planted, cover with the plow. Potatoes planted in this way, and well harrowed after they are planted, even harrowed every other day, until they are well above the ground, get the quickest and the best cultivation, and the crop so treated is looking the most luxuriant. Wherever planted about four inches deep, with either plow or hoe, and the land left as level as possible, the plants can then procure the required moisture which is needed for the best growth.

Mr. Groh, of the Farmers' Institute, and Miss Rife, of the Women's Institute, were sent up here to lecture by the Ontario Government, upon the best way to till the soil, the best way to fertilize, the best way to cultivate, etc. Miss Rife explained to the ladies the social properties required, and the best way to make the routine of women's work more easy and profitable. The correspondents of both our local papers here gave Mr. Groh great credit for the modern ideas he advanced, one of which was the forming of farmers' clubs for the further advancement of the farmer. I am greatly in sympathy with this, as one plan that the farmer can adopt to hold his own in the battle of life. N. A. E. Temiskaming.

The Highland Show.

The annual show of the Highland and Agricultural Society, held at Stirling, July 20th to 26th, was a very successful event. The show of Clydesdales was one of the best seen at the Highland. Hackneys were much better than usual. Cattle classes all filled well. Sheep were exceptionally strong.

In the Clydesdale aged-stallion class, the awards were: 1, Montgomery's Gartley Pride, by Baron's Pride; 2, Montgomery's Gartley Bonus, by Everlasting; 3, Wm. Taylor's Sir Dighton, by Sir Hugo; 4, Wm. Dunlop's Royal Walter, by Royal Chattan. Three-year-old stallions: 1, Purdy Somerville's Scotland Yet, by Royal Favorite; 2, Montgomery's British Time, by Up-to-Time; 3, Jas. Kilpatrick's Baron Belmont, by Baron o' Buchlyvie. Two-year-old stallions: 1, Montgomery's Fyvie Baron, by Baron's Pride; 2, A. M. Simpson's High Degree, by Count Victor; 3, Jas. Kilpatrick's Silvertail, by Togo. Yearlings: 1, Wm. Dunlop's Dunure Footprint, by Baron o' Buchlyvie; 2, Montgomery's Comisty-bred colt; 3, Kilpatrick entry, by Oyama. The President's medal, for best stallion any age, went to Montgomery's two-year-old Fyvie Baron, and the reserve was Dunlop's yearling, Dunure Footprint.

The brood mares were a superb lot. First award went to S. Mitchell's Minnow-wawa; second, D. Y. Stewart's Veronique, and third to Mitchell's Blossom of Newhouse, by Baron's Pride.

In yield mares, J. Ernest Kerr was first with the four-year-old Peggy's Pride, full sister to Blossom of Newhouse; John Weir was second with White Silk, by Baron o' Buchlyvie, and R. Dawson third with Heather Bell, by Royal Baron.

In two-year-old fillies, Stephen Mitchell had first with Thelma H.; Sir John Gilmore was second with Montrave Vanda, by Hiawatha, and Leslie Burno third with Adeline, by Allandale. The championship for the best female went to Kerr's Nerissa, with J. P. Sleight's Moira reserve.

The medal for best Hackney stallion went to Robert Black's first-prize horse, International. The reserve was Jim Ramsay's winner in the class not over 15 hands, Royal Ophelia.

In Shorthorns, the champion of the breed was Geo. Campbell's first-prize aged bull, Excelsior, with R. R. Bothwell's second winner in same class as reserve. The champion female was Wm. Bell's cow, Ratchough Beauty (first at the Royal), and Geo. Campbell's two-year-old Caddoll Mina II. was reserve.

The male champion in the Aberdeen-Angus class was J. J. Crillan's Everwise, with J. McG. Petrie's Metathor reserve. The breed champion ship also went to Everwise; D. R. Arnot's cow, Aisle III, reserve.

When a man can make a few hundred dollars easily by speculating in land than he can in working it, his pocket becomes fuller, but his soul emptier, and in the end he is a poorer man.

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, \$1.00 must be enclosed.

Veterinary.

WORMS—TONIC.

1. Horse passes worms 12 to 15 inches long.

2. Give tonic that will fatten a horse quickly.

Ans.—1. Take 3 ozs. 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 taken, give a purgative of 8 drams aloes and 2 drams ginger.

2. Tonics will not fatten horses. This must be done by good food, and when attempts are made to do it quickly digestive troubles often result. If the horse is not eating well, get your veterinarian to dress his teeth. Then give a tablespoonful of the following, three times daily, viz., equal parts of sulphate of iron, gentian, ginger and nuxvomica. Feed well, and give daily exercise. V.

Miscellaneous.

INSECTS ON FRUIT TREES.

I am sending to you, in a small box, a few leaves off my cherry trees with insects on, and a branch of curled leaves off my plum tree. I planted five new cherry trees and one plum tree, two peach trees, two Snow-apple trees and two crab-apple trees this spring. The peach trees are clean and healthy, the plum tree has curled leaf, the crab-apple and Snow-apple trees have a little green louse on them, and the cherry trees have the insects which you will notice. I would like to know what to do for the trees affected, and also the names of the cherry-tree insect, apple-tree louse, and what causes the curl of the leaf of the plum tree.

1. Would you tell me if it is wise to mulch the young trees in the summer with grass raked off the lawn and ashes, or if it is better to hoe close around them in the summer and mulch them in the fall?

2. Is it good to water them with suds once in two weeks through the summer? The young trees are in an orchard that has potatoes and corn in, and they are very healthy and thrifty looking, having grown so that they have surprised me, looking much now like trees that have been planted two years.

OLD SUBSCRIBER.

Ans.—So far as could be seen from specimens sent, both apple and plum leaves had been attacked by plant lice, apple and plum tree aphid, for which spraying with kerosene emulsion is recommended. The cherry leaves had been attacked by the cherry or pear tree slug, which can be killed by spraying with arsenites.

1. Hoeing is as good as mulch. Would not advise mulching too heavily in fall for fear of attracting mice.

2. As they are growing so well, it might be well to dispense with watering, though soap suds certainly stimulate growth.

TRADE TOPIC.

The Schram Automatic Fruit Jars and Sealer, advertised in this paper by the Schram Automatic Sealer Company, of Waterloo, Ont., appears to supply a long-felt want. The old-fashioned fruit jars too often fail to prove air-tight, and are often very difficult to open. The Schram Sealer overcomes these disadvantages, and should prove a boon to housewives. See the advertisement in this issue, and send for the free recipe book, mentioning "The Farmer's Advocate."

GOSSIP.

RE FREIGHT TO VANCOUVER AND VICTORIA.

Elder Dempster & Co., Montreal, write that their next sailing from Montreal will be the S.S. Sokoto, August 16, and they are prepared to accept goods destined to Vancouver and Victoria via the Tehuantepec Isthmus. They expect to deliver goods forty-five days after shipment from Montreal. Persons who wish space reserved on this sailing should advise early.

REPORT OF AGRICULTURAL SOCIETIES OF ONTARIO.

We have just received the ninth annual printed report of the Agricultural Societies of Ontario, and of the convention of the Ontario Association of Fairs and Exhibitions for the year 1909. This association, of which J. Lockie Wilson, Toronto, is Superintendent, and H. J. Gould, Uxbridge, President, is the central organization of the Agricultural Societies of Ontario, and the report shows the rapid strides that these societies have made in the last two years, since the change in the Act.

The financial statement of all the societies in the Province for the past year are given, together with the amounts paid for prizes in the different classes. The whole report is finely prepared, and is profusely illustrated with excellent cuts of show grounds, showing crowds, judging-rings and stock parades; also of prize-winning horses, cattle and sheep. A specialty is made of fowls, of which many photographic reproductions of different breeds and species are given. The report is an exceedingly creditable production.

As announced, the auction sale of imported Clydesdale fillies, the property of Mr. W. K. Harkness, of Brampton, Ont., was held at the Union Stock-yards, West Toronto, on Wednesday, July 28th. Conditions generally were unfavorable for the holding of a sale of that kind. Unfavorable weather for a week or more previous had retarded haying operations, and this running into the fall wheat and barley harvest, together with the necessary hoeing of the root crops, made it impossible for the great majority of farmers to attend, so that the attendance was limited. The offering was an essentially high-class one, many of the fillies showing a vast amount of character and quality, and up to a big size, and their breeding was certainly of the very best—probably a little ahead of any previous importation landed in Canada. All told, there were 20 head sold, two and three years of age. The highest price paid was for the richly-bred two-year-old, Lily Crosbie. She was knocked down for \$395. The lowest price was for another two-year-old, Village Pride, \$200 being her figure. The 20 head sold for a total of \$5,710, an average of \$285.50.

MEADOW LAWN SHORTHORNS.

The Shorthorn herd of F. W. Ewing, Salem, Ont., some 15 miles north of Guelph, whose advertisement runs in this paper, is among the best and most richly-bred in the Province, as will be seen from mention of a few of its representatives. Donside Alexandra (imp.) is a Kinellar Claret, of the big, thick, good-doing sort, sired by Golden Fame; dam by Clan Alpine. She is nursing a fine heifer calf, by Jilt Victor (imp.). There is also a beautiful roan daughter of this cow, due to calve in the fall, got by Mildred's Royal, and put up on show lines. Victoria Stamford, got by Royal Victor, by Royal Sailor (imp.), took fourth place as a calf in a class of 24 at Toronto. She is a grand cow, with an exceptionally good bull calf 9 months old, which promises to be a herd-header fit for any herd. Claret Cup, by Orange Victor; dam Clara Jane, by Imp. King James, has a fine junior heifer calf, by Jilt Victor (imp.). There is a senior bull calf from an English Lady cow, by Jilt Victor, which will make a very good bull. The two-year-old heifer mentioned in the advertisement is a mighty good kind. Julia Stamford, by Royal Wonder, is a thick, fleshy cow, that raised the calf that sold at the Toronto sale last February for \$360. She raised a beautiful roan bull calf this season, which was sold to Messrs. John Scott and A. G. Rowand, Dublin.

The Argentine Republic means to celebrate the one hundredth anniversary of its emancipation by a great international exhibition, to be held at Palermo, Buenos Aires, from 3rd to 31st July, 1910. The date of the emancipation of Argentina, by which is meant the date when it threw off the Spanish yoke, and Spain acknowledged its independence, was 25th May, 1810. The Republic does well to commemorate so great a deliverance, for, disturbed as has been the condition of the country at various times during the century, its history has made for progress, and such would have been impossible under Spanish auspices. The Sociedad Rural Argentina, whose headquarters are at 316 Florida, Buenos Aires, is prosecuting an eager propaganda in support of the agricultural side of the exhibition. The premium list is devised on an unusually liberal scale, and all classes of British stock have classes allocated to them. A special effort is being made to interest Clydesdale breeders in the exhibition, and patrons of the breed are very anxious that it should be well represented.

A traveller in Scotland thus graphically described a battle which he witnessed between two herds of cattle, each consisting of from twenty to thirty head:—"The bulls on each side advanced before the others, sending forth a deep and hollow roar of mutual defiance. They advanced slowly, with heads lowered, all the others following in the same manner. As they drew nearer to each other their roar became more loud, and their attitude more menacing, and while they belted they tore up the earth with their fore feet and tossed it high in the air behind them, sometimes also tearing it up with one of their horns. The roar was loud and various. They all rushed into battle breathing mortal defiance to each other, but the moment they engaged all bellowing was at an end. They were too seriously occupied to think of menacing sounds. The struggle was long, and the exertions of each were strenuous. When any one was forced to give way to his opponent it seemed impossible for the weaker to avoid destruction, for the more powerful, after having pushed back his adversary, never failed to attempt to gore him in the sides with all his force. But the danger was evaded by the weaker animal giving up the contest and receding as nimbly as might be from the thrust. The beast conquered by one individual attacked in his turn another whom he considered inferior, and another battle ensued, the contest being solely between individual and individual. This individual superiority being attained, in the space of half an hour the battle was entirely at an end, and all the parties engaged were as quiet and peaceable as they ever could be."

A traveller through Barbary in the middle of the eighteenth century enumerates the beasts of burden which he saw in that country as follows:—"Camels, a few dromedaries; horses, which have much degenerated of late years; asses, mules, and a creature called the kumrah—a little serviceable beast of burden begot between an ass and a cow. That which I saw was single-hoofed like the ass, but different in every other respect, having a sleeker skin, and the tail and head (though without horns) resembling the dam's." The same traveller notes that "the black cattle of Barbary are small and slender, and give so little milk that the Dey of Algiers was greatly surprised when Admiral Cavendish told him he had on board his flagship a Hampshire cow that gave a gallon of milk a day—that being as much as half a dozen of the best Barbary cows would yield in the same time. Cheese is made chiefly from the milk of sheep and goats; the flowers of the great-headed thistle or wild artichoke being used in summer instead of rennet to turn the milk. The sheep are of two sorts—one the fat-tailed breed common all over the Levant, the other being nearly as tall as our fallow deer, and, excepting the head, not very different in shape. The fleece of this breed is as coarse and hairy as that of the goat. There is also a kind of wild cow, remarkable for having a rounder body and flatter face, with horns bending more towards each other than the tame kind. Their calves quickly grow tame and herd with other cattle."

Writing rather more than a century ago, Dr. Pallas, the celebrated naturalist, describes the curious treatment to which lambs were subjected in certain parts of Russia in order to obtain the fur known as Persian lamb. He says: "As soon as a lamb is dropped (it comes into the world with a pretty wavy skin, even without the assistance of art) the inhabitants, to augment its beauty and make it bring a higher price, sew it up in a coarse linen shirt so as to keep a constant gentle pressure on the wool, pouring warm water on it every day to make it soft and sleek; only letting out the bandage a little from time to time as the animal increases in size, but still keeping it tight enough to effect their purpose, which is to lay the wool in beautiful glossy ringlets, and thereby produce a delicate species of fur which is in great request. By this treatment the fine soft wool which rises in the infancy of the lamb takes a handsome arrangement, and the animal is killed younger or older, according to the species of fur intended to be produced, from a short, glossy, satin-like nap to a warm, thick fur for a winter great coat. The first of these furs in estimation and price is a fine black, like silk damask; an inferior and much thicker black fur comes next; and the lowest in estimation is the whitish, except it be of a very silky appearance and pure color, in which case it rivals the first."

An amusing adventure happened on one occasion to Dr. Clifford when he was conducting a series of services in Birmingham. Arriving a few minutes before the commencement, the doctor was refused admission by the policeman at the door.

"I want to go in," said Dr. Clifford.

"Are you a seat holder?" asked the official.

"No, I am not."

"Then you can't go in."

"I think," remarked the famous passive resister, "that there will be room for me in the pulpit."

"I am not so sure of it," retorted the other.

"But I am Dr. Clifford, and I am due to preach in another minute and a half."

"Oh, are you?" said the incredulous policeman. "I have let in two Dr. Cliffords already."

A boozier who had been imbibing rather freely, when passing by a water fountain in the form of a statue of a man, from the mouth of which water was gushing, sympathetically embraced the statue and remarked: "It's all right, old man; you'll feel better when it's off."

BOOK REVIEW.

A CENTURY IN ABERDEENSHIRE.

Aberdeenshire men throughout Canada will be pleased to learn that the annals of the famous Garioch Farmer Club are now available in book form, issued as a centenary souvenir. The preparation of this historical retrospect was entrusted by the committee to Isabella M. Bruce, an assurance, we may be sure, that the work would be done with fidelity, discretion and literary skill. When one thinks of what the world owes Aberdeenshire, not only for noble men, but pure-bred live stock, peerless in its domain, it is fortunate that the records of agricultural societies, which have contributed so much to the progress of the industry, have been preserved, in this particular instance, well and unbroken since 1808. Looking over the achievements of these by-gone years, and worthy men, one may conclude that with all our boasted progress the early 19th-century men were just about as wide-awake, far-seeing and able to adapt themselves to changing conditions as those of the 20th. The frontispiece is a beautiful landscape, "Where Gadie rins at the back o' Bennachie," and the 100-odd pages of the monograph are embellished with 16 other illustrated pages, including many portraits of officials, from Alexander Gordon, of Newton, President of the first show in 1811, to those of 1908—Alex. M. Gordon, President; Wm. A. Mitchell, Vice-President, and Geo. A. Bruce, Insch, Field, Insch, Secretary. From the latter copies of the souvenir volume may be obtained, in paper, at 1s.; art volume, 1s. 6d., and in cloth, the more permanent and desirable form for the farm library, at 2s., with 4d. additional for postage.

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MARKETS.

Toronto.

REVIEW OF LAST WEEK'S MARKET.

The total receipts of live stock at the City and Union Stock-yards were as follows:

	City.	Union.	Total.
Cows	183	219	402
Cattle	2,247	3,787	6,034
Hogs	3,296	1,094	4,390
Sheep	4,608	1,511	6,119
Calves	609	218	827
Horses	—	120	120

The quality of fat cattle was not quite as good, not as many of the stall- and meal-fed, while on grass, as has been coming, but taken all together there was a fine lot, especially the export class.

Trade was brisk at the Union yards on Tuesday; in fact, it was the best market for export cattle that has been held this year, over 2,000 head being bought and weighed before the noon hour. And, best of all, the drovers and farmers seemed to be well pleased and satisfied. Prices held about steady, at the previous week's quotations.

Exporters.—Steers sold at \$5.65 to \$6.10; heifers, \$5.50 to \$6; bulls, \$4.50 to \$5.

Butchers.—Prime picked lots of stall-fed heifers and steers are scarce, and as dear as ever, being worth from \$5.50 to \$6; loads of good, \$5 to \$5.25; medium, \$4.75 to \$5; common, \$4 to \$4.60; cows, \$2.25 to \$4.25, with a few as high as \$4.70.

Feeders and Stockers.—Trade was light, with prices unchanged. Feeders, 1,000 to 1,100 lbs., \$4 to \$4.50; feeders, 900 to 1,000 lbs., \$3.75 to \$4; stockers, \$2.75 to \$3.50, according to quality.

Milkers and Springers.—The quality of milkers and springers was much better than for several weeks, and prices were about \$5 higher, the bulk selling from \$40 to \$55; and common to medium at \$30 to \$37.50.

Veal Calves.—Receipts large, with prices the lowest of the season, at \$3 to \$5 per cwt., with a few of the best at \$5.50.

Sheep and Lambs.—Receipts large, especially lambs. Export ewes, \$3.50 to \$4.10; rams, \$2.50 to \$3 per cwt.; lambs, at the latter part of the week, were almost unsalable. Prices the lowest of the year, at \$5 to \$6 per cwt.

Hogs.—Packers quoted 10c. per cwt. lower, but found no takers. The farmers are masters of the hog situation, and are certainly getting back at the packer, and pork-eaters are paying for it all. Receipts were light, with prices steady, at \$8.25, fed and watered, and \$8, f. o. b. cars at country points, with \$8.50 to \$8.65 off cars.

Horses.—At the Union Horse Exchange on Monday, there were about 140 horses reported on sale. Trade was slow at last week's quotations. On Wednesday, the sale of imported fillies, 32 in number, was considered a success, considering that it is harvest time, and many farmers

were too busy to leave their work. About half of the number offered were reported sold, at an average of \$300 each, which was a good price, considering the condition they were in, many of them suffering from colds contracted after their long journey. Drafters sold at \$180 to \$220; general-purpose horses, \$160 to \$190; expressers, \$140 to \$200; drivers, \$120 to \$180.

BREADSTUFFS.

Wheat.—No. 2 winter, red, white or mixed, \$1.20 to \$1.25, outside. New wheat, \$1.05 to \$1.10. Manitoba—No. 1 northern, \$1.26; No. 2 northern, \$1.24; No. 3, \$1.22, on track, lake ports. Rye—No. 2, 75c., outside. Peas—No. 2, 92c. Oats—No. 2 white, 56c. to 57c.; No. 3, 55c. to 56c., on track, Toronto. Corn—No. 2 yellow, 81c. to 81½c., track, Toronto. Barley—No. 3 extra, 61c. to 62c.; No. 3, 61c. Flour—Ninety per cent. patents, \$5.50, in buyers' sacks, Toronto. Manitoba, first patents, \$6.20 to \$6.40; second patents, \$5.70 to \$6; strong bakers', \$5.50.

HAY AND MILLFED.

Hay.—Baled, in car lots, track, Toronto, is firm, at \$13 to \$13.50. Straw.—Baled, car lots, track, Toronto, \$7.50 to \$8. Bran—\$22, in bags. Shorts—Car lots, \$23 per ton.

COUNTRY PRODUCE.

Butter.—Receipts have been larger since the rains. Prices easy, with no change in prices, except for solids, which are 1c. per lb. lower. Creamery, 23c. to 24c.; creamery solids, 21c. to 22c.; separator dairy, 21c. to 23c.; store lots, 18c. to 19c.

Eggs.—Supplies have been coming in on the light side. Prices firm, at 22c. for case lots.

Cheese.—New cheese plentiful, with prices easy, at 12½c. for large, and 13c. for twins.

Beans.—Receipts light, but equal to demand, at present high prices. Primes, \$2.20 to \$2.25; hand-picked, \$2.40 to \$2.50.

Potatoes.—New Jersey potatoes are selling at \$3.15 to \$3.25 per barrel. A few lots of home-grown potatoes are being offered, but of poor quality, selling at \$1 to \$1.25 per bushel.

Poultry.—Receipts light. Turkeys, 15c. to 17c.; ducks alive, 12c. to 14c. per lb.; chickens alive, 18c. to 20c. per lb.; old fowl alive, 10c. to 12c. per lb. Dressed chickens, 18c. to 22c.; dressed ducks, 16c. to 18c. per lb.

FRUITS AND VEGETABLES.

Receipts of Canadian fruits are growing larger as the season advances. Trade generally has been good. Raspberries, per box, 8c. to 9c.; Canadian cherries, eating, \$1 to \$1.50; red cherries, 50c. to 90c. per basket; blueberries, \$1 to \$1.25 basket; gooseberries, 75c. to \$1; red currants, 65c. to 85c.; Canadian peaches, 75c. to \$1; green corn, 15c. per dozen; black currants, \$1 to \$1.50. Canadian plums came in on Wednesday, and sold at \$1.25 to \$1.50.

HIDES AND WOOL.

E. T. Carter & Co., 85 Front street East, Toronto, have been paying as follows: No. 1 inspected steers, 60 lbs. up, 12½c.; No. 2 inspected steers, 60 lbs. up, 11½c.; No. 1 inspected cows, 12c.; No. 2 inspected cows, 11c.; No. 3 inspected cows and bulls, 10c.; country hides, cured, 10½c. to 11½c.; calf skins, 14c. to 16c.; horse hides, No. 1, \$2.75; horse hair, per lb., 30c. to 31c.; tallow, per lb., 5½c. to 6½c.; sheep skins, each, \$1.30 to \$1.50; wool, unwashed, 12c. to 13c.; wool, washed, 20c. to 22c.; wool receipts, 11c. Raw furs, prices on application.

AT THE MARKET.

Mrs. C.—"Good-morning, Bridget. I hope your master and mistress have not forgotten that they're coming to dine with me to-night."

Cook—"Indade and they've not—they've ordered a good hearty meal at home at six o'clock."—Hesper's Bazar.

"There are some spectacles," said the lecturer, "which one never forgets."

"I wish you could tell me where I can get a pair of them," exclaimed an old lady in the audience, "I am always forgetting mine."

Montreal.

The quality of the cattle coming forward seems to be showing a slight improvement, possibly on account of the improved pasturage. In any case, there is a somewhat better demand, particularly from exporters, and prices are holding up well to the previous high figures. Choice steers are selling at 6c. to 6½c. per lb., fine at 5½c. to 6c., good at 5c. to 5½c., medium at 4½c. to 5c., and common at 3c. to 4c., with inferior as low as about 2½c. Receipts of sheep continue only moderate, and, as demand is good, prices rule steady, at 4c. to 4½c. per lb. There is no demand for export, however, owing to prices being out of line. Lambs are in good demand, and prices are ranging from around \$4 to \$6 each, and occasionally higher. Calves are in good request, and are selling at \$2 to \$4 for common, and \$5 to \$9 for choice. The hog market is exceedingly firm, although prices have not advanced any as compared with the high level reached a week ago. Select stock sold at 9c. per lb., off cars, this week, and in some cases \$9.10 was made.

Horses.—Business shows little change, although demand is slightly more active than it was a week ago. A few animals were put out for the country trade this week, but trade is very dull, nevertheless. Prices hold about the same as a week ago, as follows: Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$225 to \$300; light draft, weighing from 1,400 to 1,500 lbs., \$180 to \$240; small horses, weighing from 1,000 to 1,100 lbs., \$100 to \$150; inferior and broken-down animals, \$75 to \$100 each; while choice saddle or carriage animals sell at \$300 to \$500 each.

Dressed Hogs and Provisions.—Unquestionably, there is a firm tone in the market for hogs. The price shows no change this week, however, being 12½c. to 12½c. per lb. for fresh-killed, abattoir-dressed. Cured meats are all steady, the demand for them being more or less featureless at this time of year. Extra-large hams are still selling at 14c. per lb., large hams, weighing from 18 to 25 lbs., being 15c., and medium, 12 to 18 lbs., being 15½c. Large boneless hams sell at 16c., and small at 16½c. Windsor backs are still quoted at 18c., and Wiltshire sides at 17c., lower qualities of bacon being 13½c. to 14c. per lb. Pure lard sells at 14½c. to 15½c. per lb., and compound at 9½c. to 10½c., barrelled pork being \$27.50 to \$29 per barrel.

Potatoes.—New potatoes from this island are selling on the market here, in a small way, at \$3.50 to \$3.75 per barrel, and \$1.50 to \$1.75 in small bags.

Eggs.—Since a week ago, prices have advanced in the country, and it is now practically impossible to make purchases at less than about 21c. per dozen for straight-gathered. These are not changing hands here without being candled, and in this condition No. 1 sells at about 22c. per dozen, while selects sell at 25c. The stock deteriorates in quality from week to week.

Butter.—The market has been steady of late, sales of choicest having taken place in Township sections recently at from 22c. to 22½c. These sell at about 22½c. to 22½c. per lb. here, wholesale, small lots being a cent more. Fresh dairy butter is costing about 18c. in the country, and selling here at about 18½c. to 19½c., according to quality and quantity.

Cheese.—Shipments are fairly well up to last year, being 600,000 boxes, as against 607,000. Prices are about steady in the country and here. Quebec cheese are still quoted at 11½c. to 11½c. per lb., Townships being 11½c. to 11½c., and Ontario at 11½c. to 11½c. per lb. Export demand is fair. Later, prices declined ½c. on butter and ½c. on cheese, in sympathy with declines in country.

Grain.—The local market for oats has experienced a break of about 2c. during the past few days, being 56c. per bushel for No. 2 Canadian Western, 55½c. for No. 1 extra feed, 55½c. for No. 1 feed, 55c. for No. 3 Canadian Western. No. 2 barley is 72½c. to 71c., and Manitoba

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feed barley is 67½c. to 68c., while buck-wheat is 69½c. to 70c.

Feed.—Demand is not very active, the grass being good. Prices are unchanged, at \$22 per ton for Manitoba bran, in bags, and \$24 for shorts, pure mouille being \$33 to \$35, and mixed being \$28 to \$30.

Flour.—No changes have taken place during the week, prices being still \$6.30 per barrel, in bags, for Manitoba first patents, \$5.80 for seconds, and \$5.60 for strong bakers', Ontario winter wheat patents being \$6.75, and straight rollers \$6.50 to \$6.60.

Hay.—Baled hay holds steady, No. 1 being \$14.50 to \$15 per ton, carloads, Montreal, No. 2 extra being \$13 to \$13.50, No. 2 \$11.50 to \$12; clover mixed, \$10.50 to \$11, and clover, \$9.50 to \$10.

Hides.—The only new feature in the local hide market is the advance of 25c. each in the price of horse hides. Should the U. S. place hides on the free list, it should have the effect of strengthening prices here. Dealers are still paying 11c., 12c. and 13c. per lb. for Nos. 3, 2 and 1 beef hides, respectively, and 14c. and 16c. for Nos. 2 and 1, respectively, and selling to tanners at ½c. advance. Lambskins are a little firmer, being now 30c. all round, and No. 1 horsehides are \$2.25 each, with No. 2 \$1.75 each. Tallow is unchanged, at 1½c. to 3c. per lb. for rough, and 5½c. to 6c. for rendered.

Cheese Markets.

Listowel, Ont., bid on the board was 11½c., but no sales were made. On the street, most of the factories sold at 11½c. Kemptville, Ont., cleared at 11 7-16c. Huntingdon, Que., white cheese sold at 11 5-16c.; colored, 11 5-16c. Iroquois, Ont., none sold on board, but all sold on street for 11½c. Picton, Ont., all sold; 11½c. and 11 7-16c. Perth, Ont., 11½c. for white, and 11½c. for colored. Napanee, Ont., white sold for 11½c., and colored for 11 7-16c. London, Ont., bidding 11c. to 11½c. Victoriaville, Que., 11 1-16c. St. Hyacinthe, Que., 11c.

Chicago.

Cattle.—Steers, \$6.25; cows, \$5.50 to \$6.50; heifers, \$6.20; bulls, \$3.40 to \$4.85; stockers and feeders, \$3.75 to \$5.15.

Hogs.—Choice heavy, \$7.86 to \$7.90; butchers', \$7.75 to \$7.85; light mixed, \$7.50 to \$7.65; choice light, \$7.65 to \$7.75; packing, \$7.50 to \$7.70; pigs, \$5.50 to \$7.40.

Sheep and Lambs.—Sheep, \$4 to \$5.25; lambs, \$4.50 to \$7.75; yearlings, \$5 to \$6.00.

Buffalo.

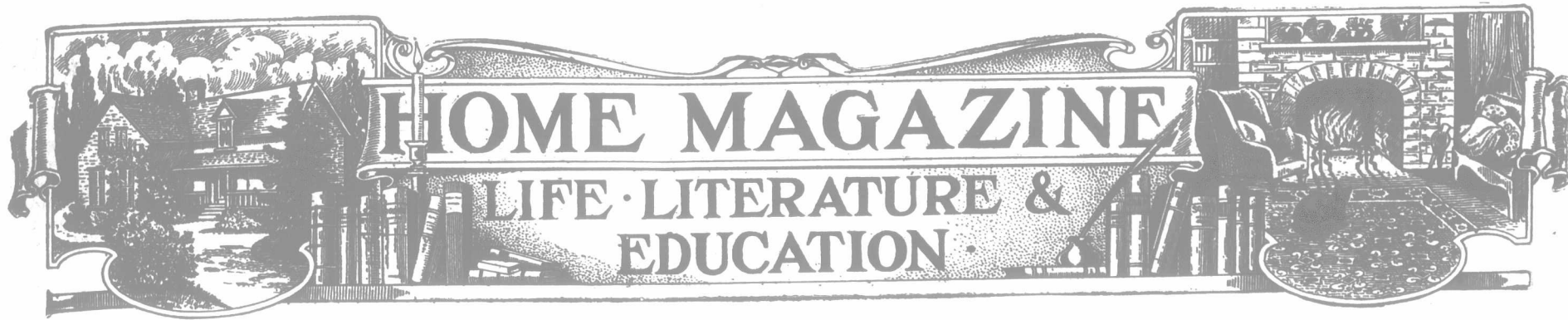
Cattle.—Prime steers, \$6.35 to \$6.75; Veals—\$3 to \$8.

Hogs.—Heavy, mixed and Yorkers, \$8 to \$8.25; pigs, \$7.90 to \$8; roughs, \$6.75 to \$7; stags, \$5.50 to \$6.25; dairies, \$7.75 to \$8.

Sheep and lambs—Active and steady; unchanged.

British Cattle Markets.

London cables cattle at 13½c. to 14½c. per lb. for Canadian steers, dressed weight; refrigerator beef is quoted at 9½c. to 10c. per lb.



The Canadian Churchman gives voice to the following plea for greater attention to the pronunciation of the growing generation. That such is much needed, no one will deny who listens to the ordinary speech of children, too often characterized by slurring over of vowels, the elimination of consonants, and a generally untidy, "slipshod" utterance: "We sympathize with the English lady in Alberta who bewailed the dreadful pronunciation and slipshod language that she heard round her, and wondered whether, possibly in the Southern States, some place could not be found where her children could grow up hearing English undefiled. We regret that such places do not exist. Some parts of the West India Islands and British Columbia are better than other lands in this respect. But, unfortunately, where English is rooted as the mother tongue, there are provincialisms. It is impossible to get away from them any more than in the City of London, or any county district in the United Kingdom. At the same time, we believe much more might be done than is accomplished, in training teachers to speak at all times the best English, with the best intonation, and when and where that is attended to, the scholars' voices are improved. Language, manners and religion all need the attention which seems to be thought to be superfluous."

A movement is on foot to commemorate 100 years of peace between Canada and the United States. Many ideas have been proposed as to the form the commemoration will take, but two of these are singled out from the rest as most suitable. One is a pageant illustrating the events of the past century, the other is the building of a bridge connecting the parks at each side of the Falls. The erection of a bridge connecting the two countries, and built with money supplied by both, would seem to be a peculiarly appropriate and happy memorial.

The Missionary Review of the World, published in New York, gives some very interesting statistics as to the progress of missions. In the past five years, the number of missionaries sent out from Protestant churches in America has increased by fifteen per cent. The British churches have doubled this increase, and the Protestants of Continental Europe show an advance of twenty-five per cent. The increase in Protestant-church members at home was about one-fifth per cent., while abroad, in American missions, it was about twelve per cent. The total number of native church members added last year in all fields, by all denominations, was 164,674, or over 500 a day, and an average of about eight converts for each missionary on the field. Even more significant is the increase in gifts to foreign missions during the year of financial distress. In America there has been an increase of \$602,000.

If the object of reading is simply to obtain information, then we will pay little or no attention to poetry; but if the end in view is culture and pleasure, we will want to become acquainted with the great poets and their productions. There can be no doubt, also, that the moral and spiritual faculties are developed

through reading the writings of such men as Tennyson, Longfellow and Whittier, who present such high ideals of character and conduct. It is really sad that so many young people find more pleasure in an ephemeral novel than in a great poem. To ignore poetry is to shut oneself off from some of the most beautiful thoughts that have ever found expression in type. If a person has no love for poetry, there is some defect in his training.

People, Books and Doings.

The popularity of "David Harum" continues. The Appletons, of New York, have just brought out a new edition of the story, and state that since it first appeared, in 1898, more than 1,100,000 copies have been sold.

On June 22nd, Wells Cathedral, Eng., celebrated its 1000th anniversary. Centennial celebrations are not uncommon nowadays, but a millennial anniversary is something of a rarity.

One of the most picturesque ceremonies which take place in London is the annual inspection of the King's Body Guard of the Yeomen of the Guard, in the Garden of St. James's Palace. There are few links with the past that are as ancient as this ceremony, for the men parade on exactly the same spot as the first troop of Yeomen of the Guard stood 424 years ago, and wear the same pattern uniform as they did when Henry VII. selected the 100 bravest soldiers from his army to form them as his personal body guard. On Friday, July 19th, Sir John French, Inspector-General of the Forces, held the annual inspection, and over 80 members of the company paraded, under the command of Sir Reginald Hennell. There was something very moving in watching this parade of gray-bearded veterans, in their quaint, old-world dress, saluting with halberts. Each member of the corps had his breast covered with medals, and the collective decorations included every action in which the British Army has taken part during the past 70 years.

A translation of the New Testament into broad Scottish dialect is said to have been completed by an Ontario minister, whose chief reason—among others—for the translation is, "Whiles thar has been a chance o' makin' the meanin' plainer; whiles a Scots phrase o' unco tenderness or wondrous pith could come in. And at a' times, ahint the pen that was movin' was a pair but leal Scots heart, fu' o' prayer that this sma' effort might be acceptit o' the dear Maister—and, survivin' a' the misca'on o' the pernicky and the fashionable—might bring the memory o' a worthy tongue, and the better knowledge o' a Blessed Saviour, to this ane and that ane, as they micht chance to read it."

The first successful attempt to cross the channel by aerial navigation, was made on July 25th, when Mons. Bleriot, a French aviator, landed on English soil, having flown over in a small aeroplane, at four o'clock in the morning. Two fellow countrymen, who were on the watch for him, with a few others who chanced to be near, were the only witnesses of his arrival. The crossing was made in less than half an hour—half the time of the fastest mail boat.

This has been "Canadian year" at Bisley, the Canadians having won fourteen prizes, among them being the Prince of Wales prize, one of the most-coveted distinctions obtainable, the Jubilee and Kolapore Cups, and others, besides coming third in the competition for the King's Prize.

Four more Dreadnoughts are to be added to the British Navy, to be completed in March, 1912.

Excavations conducted by the Archaeological Department of the Indian Government, near Peshawur, have resulted in the discovery of an ancient Buddhist stupa, or memorial mount, containing a bronze casket, within which are some ashes of Gautama Buddha, the founder of Buddhism. The ashes are enclosed in a wrought hexagonal rock-crystal receptacle, sealed with the royal seal of Emperor Kanishka, who was ruling in Peshawur at the opening of the Christian era. "When Buddha died, in 482 B. C., his body was cremated, and the ashes divided into 8 parts among his disciples," said Dr. L. D. Barnett, keeper of Oriental books in the British Museum, to-day. One of the vases containing these, and known as the Piprahwa vase, was discovered ten years ago by a Government surveyor.

The Running of an Empire.

By an English contributor.

It must often have occurred to many foreigners—and possibly a few Britishers—to ask themselves, What is the secret of the success of the British Empire? How is it run? Various reasons could doubtless be put forward in explanation of the fact that, since the birth of our Empire, in the reign of Elizabeth, it has come quietly, but steadily, from strength to strength, never showing a sign of decadence, but ever gathering fresh vigor, until it reached the unparalleled position which it holds to-day. But possibly the secret is a negative rather than a positive one.

It is only during the last ten years or so that the man in the street in this country has realized thoroughly that we are a part of a great and powerful empire. Before the South African war he was conscious that we possessed certain colonies—some of them a long way off—marked in red on the map, and that these colonies provided us with a reasonable amount of corn and frozen mutton. But the war changed all that. We were hard hit, and fell upon grievous times, while Europe rocked with laughter at our discomfiture. Then from every quarter of the globe the whelps rushed to the assistance of the "old gray mother," and the laughter of Europe died away, for the might of the British Empire was made manifest. It was no mere phantasy, this much-vaunted Empire; it had become a vast and solid reality.

History has but repeated itself during the recent naval crisis. No sooner did it become evident that we were faced with a grave and imminent danger, than the Colonies came forward, one after the other, with magnificent offers of help. Some desired to alleviate the needs of the moment; others were for rendering aid which should be more lasting in its effect, but all displayed alike the single purpose of doing their ut-

most to place the naval prestige of Great Britain beyond challenge.

These are but two instances of the practical patriotism of the overseas dominions, and the genuine desire to co-operate with the Mother Country wherever possible, for the benefit of the Empire as a whole. Can mere sense of kinsmanship alone account for such splendid loyalty? Surely not, for the flesh of our flesh have taken up the sword against us before now, as witness the American War of Independence. Once, and once only, did we attempt to force a colony into submission to what it regarded as oppression, with the result that it changed its color on the map. But we learned our lesson, and since that lamentable display of pigheadedness, it has been our aim to allow each colony to develop itself on its own lines, and according to its own notions of what its requirements demand, with as little interference as possible from this side of the water. There can be no doubt but this has been appreciated by our overseas dominions, and acted upon, with the happiest results. It is fully recognized that the Governor-General of a Colony represents the Crown, but this system of representation could never have been successful had our Governors-General attempted to make their position in any sense despotic. Had there been frequent instances where a Governor-General had allowed his individual judgment to run counter to the wishes of the people, friction would inevitably have arisen, with disastrous consequences. But the men sent out from this country, as representatives of the Sovereign, have, generally speaking, been extraordinarily successful, because they have made it their object to discover and associate themselves heart and soul with the aspirations of the country whose care had been committed to their charge. Indeed, it is safe to say that, to-day, there is no Colony which regards its Governor-General in any other light than that of a sympathetic adviser and a staunch friend. Thus, each dominion has developed its resources unhampered by the restrictions which would have been inevitable under any system of rule from headquarters, and therein lies the secret of the success of the British Empire; for the secret is that we don't run our Empire—we let it run itself. Give this answer to the inquiring foreigner, and he will be more mystified than he was before; and it is well that he should be, for nobody can say quite how the British Empire is run. There is something mystical, something which rises above mere logic and reason, about the British Empire. There are no obvious bonds which hold it together; there is nothing that one can point to as an outstanding incentive to unity of purpose. It embraces many different races, many religions, many widely-varying methods of gaining a living. But it flourishes as an harmonious whole because the keynote of its existence has been freedom of action to every type of humanity to work out his destiny as he will.

But now we are approaching a crisis in the history of our Empire. The grand climacteric is at hand. So far, the mother has watched her children grow up, giving them the benefit of her experience and her wealth, and has reaped the reward in her gray years, for the children have shown no lack of gratitude. But the

children are no longer children. They have attained to the strength and discretion of manhood, and are ready to take their place at the mother's side. Let us make no mistake about that. Just now there is much talk of cementing the defence of the Empire, and the conference in London on questions of defence is a big step in the right direction. There is a great chance here for making the change, which must come sooner or later, if the solidification of the Empire is to become an actual fact. It is sincerely to be hoped that the question of defence will be discussed on a wider basis than mere assimilation of methods, and a more proportionate distribution of the border. Let us have some scheme by which the Empire will really co-operate for purposes of defence—some scheme by which every part of it will be represented, and able to have a voice in the management of the ships and men which every part of it will provide. Thus we shall acknowledge the right of the offspring to take their proper place in the household. There is no reason to believe that, when the time comes, this country will be found wanting in common sense or gratitude. But the wheels of Empire move slowly, and this change will probably occur just as others have, in the quiet, unobtrusive way, which gives the impression that the natural thing has been done, without a trace of force or opposition from any quarter. In the meanwhile, there can be no harm in preparing ourselves for a new era—an era from which the British Empire will emerge mightier than ever, and a standing example to the world of the real value of liberty, equality and fraternity.

A Trip to New Ontario.

(Continued.)

It was our first experience in a canoe, at least for a long trip. "Three days to camp," said C., and as we sat down in the little gray shell that morning, and saw box after box, bundle after bundle, stowed away about us, until the rim of the canoe almost seemed to touch the water, it was with mingled emotions, to say the least. The sky was gray and lowering; a stiff breeze was blowing "in our teeth," and we looked back at ugly little Elk Lake City as one might who was loath to leave. But there was nothing else for it but to go on, so we bravely assumed an air of unlimited confidence, considering C.'s canoe-ship, and resolved to die at least game.

It is peculiar, though, how soon fear of a canoe leaves you in this north country, where there are so many of them. At first you catch your breath at every wobble; then, by and by, you begin to sit up and take notice. You become interested in the green, wooded banks gliding swiftly by; you hear in these silent wildernesses the songs of a myriad of birds—the "teacher," the winter wren, the veery, the wood-thrush, and, above all, the white-throat calling everywhere—and finally, the plash of the paddle itself lulls you, fascinates you, and you are in love with the canoe. You understand now the spirit in which Pauline Johnson wrote "The Song My Paddle Sings." You think of all the delightful things Bliss Carman and C. G. D. Roberts wrote about "birch and white canoe," and then suddenly you realize that you, you, are here in the midst of it all, lying there watching the water eddying by, taking into your soul the great silences, and realizing, as in a dream, the hurrying by of deep forests, where moose and Indian even yet range, their mysteries hidden by banks of foliage along the river banks, alder and low-growing ash, dog-berry thickets, and flashes of high rock, cranberry white with bloom. In several places we saw what seemed to us a curious phenomenon—wild roses and marsh marigolds side by side, in full flower. In Southern Ontario the marsh marigolds are through blooming weeks before the first wild rose appears.

After leaving Elk Lake, the scenery presents much the same characteristics as before, the same succession of river and lake, only that in places the former narrows perceptibly, while the banks become notably bolder, with great outcrops of rock appearing at frequent intervals. For many miles the way is still the Gowganda trail, and there is the same endless procession of canoes, ever canoes, for the river-steamers do not run above Elk Lake. Silently they come into view, silently they pass. Perhaps there is a "Good morning," but nothing more. Indeed, the extreme reticence of the people is one of the characteristics of this great Northern land. You would think that the spirit of the solitudes had gotten into them, or that the cloak of the Indian had for the time descended upon the white man. We remarked upon it more than once. "It is the fashion of the country," said one to whom we spoke. "People are too busy," said another; "every man has a definite point which he means to reach before night. There is no time to talk."

We reached Stony Creek (the point at which the Gowganda trail makes a cross-country portage to follow a chain of rivers and lakes joining the Montreal higher up) at about night-fall. We were here to part company with the trail, however, so we camped across the river, and no sooner were the tents in place than a drizzling rain, which lasted until noon next day, began to fall. It was our first night in New Ontario in a tent, but we slept comfortably between the folds of an eiderdown sleeping-bag, and a "rabbit-skin,"—a sort of comforter lined with rabbit skins—which is very popular in this country, and must be exceedingly so when the thermometer reaches 20 degrees below zero.

The pattering of rain on a tent is very pleasant for a time, but when the patter lasts for hours past the time when you want to be on your way, the romance departs. But once during that drizzly forenoon did we venture out. An expanse of newly-cut stumps—part of the Booth limit—lay behind our camp. We did not go far in it, but we found some wild-

flowers not common in Southern Ontario, yellow clintonia, and a species of lily somewhat resembling a lily-of-the-valley on a minute scale. Bunchberries were everywhere.

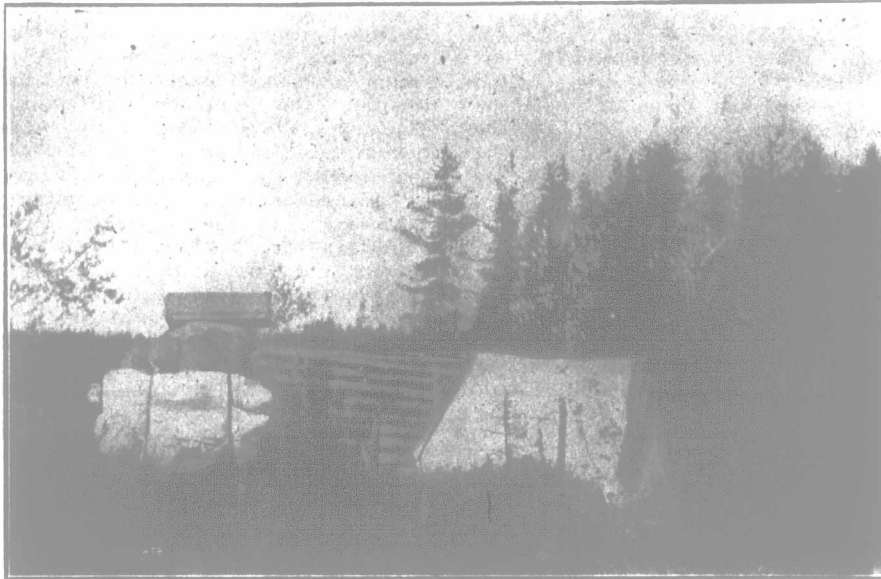
At noon the clouds lifted, and very gladly we set off. That day proved the most strenuous of the journey, and the most solitary. For many hours now we saw no sign of a prospector's tent, met no canoe on the river. Presently, the first of a six-mile stretch of rapids was reached, and it was necessary to pole up stream. Again came thrills as we saw the curling ripples swirl by, and felt the tugging of the canoe at every stroke. We never learned to really like going up the rapids. Before long, the sound of their angry snarl, and a glimpse of the "white horses" dashing up on the black water ahead, brought a positive dread to us. There was always an element of uncertainty about them, and a tremendous amount of hard work for the canoeeman. Often it became necessary for him to get out and pull the canoe up exceptionally swift and shallow places, tugging along above the knees in water, stumbling over rolling stones, almost carried back sometimes by the combined force of the canoe's weight and the battling of the swift current.

At one point, C. Senior got out to walk, and C. struggled along, dragging the two of us, and all the "other" baggage in the canoe. It was a very hard spot, and my sympathies were touched. I would walk through the woods for a piece. Indeed, I preferred to walk. I was cramped from sitting in the boat. There were a host of excuses.

Well, I got my way, and walk enough I had. First, I got into a burnt place, and the like of it I do not wish to try again. Over fallen logs black with cinder; through brush; over rocks and boulders, and finally into deep red mud over my shoe-tops. To make matters worse, I had come upon a patch of things that looked like morellas, and had filled the skirts of my long coat with them. I believe yet that they were morellas, but, after carrying them with infinite pains, there was no one able to positively identify them, and they had to be thrown into the river. Last of all, I came upon moose tracks. That was the last straw, for, after that it was not only logs, brush, rock, boulders and mud, but there was the added necessity of glowering about for a big bull moose. No wonder I made a short-cut for the river. But I was "in" first, after all, and had to wait while C. toiled up the rest of the way, dragging his little wife behind him. At the rest of the rapids, where possible, we walked, but we took good care to get off at the right side, where the Indian trail lay.

And now I must tell you how we fell in with the next detachment of our camp party—two of "the boys" who had been sent on ahead with provisions. It was our first meeting with any of the party, and no doubt C. wished us to make an astoundingly fine debut, especially his wife of less than a year. To begin with, it is necessary to state that it had been very cold all day, and was growing steadily colder. Wraps were not sufficient, so finally we pulled our caps over our ears, and lay flat down in the bottom of the canoe, Mrs. C. and I, side by side; then we were covered up to the neck with the "rabbit-skin."

On rounding a sudden curve in the river, we came on the two red canoes drawn up on the bank, and standing beside them "the boys." The look of blank astonishment on their faces was more than amusing, for to them nothing but a canoe with a man at each end was visible. One of them told us afterwards that he thought "the ladies had not come." We drew up alongside. "Mr. — Miss —" muttered C., and I bobbed up my head and said, "How do you do?" "Mr. — Mrs. C." and my friend followed suit. So that was the way in which we met the first of our campers.



"C" Carrying Our Effects Over a Portage.



The Portage in the Woods.

We all had dinner on the bank, then off we pushed again, we poling, "the boys," who had heavy loads, (as much as three-quarters of a ton is sometimes carried in a canoe), wading up the rapids behind.

That night we pitched our tents at a beautiful spot known as "The Forks," because into the little lake there formed flow the two branches of the Upper Montreal. On the high bank, quite covered with wild-rose bushes in full-bloom, stood a fire-ranger's cabin. In front of it a fire was burning, and two young men were sitting. It was the first sign of human habitation that we had seen all day, and, no doubt, our presence was not less acceptable to our neighbors than theirs to us, for scarcely had we eaten supper, when over they came, freshly-shaven, and attired in their "best," to make us a visit. They proved to be two prospectors, a dentist from Montreal, and his friend, who were temporarily occupying the fire-rangers' quarters. Very agreeable youths they were, and we spent a most interesting evening listening to stories of camp woes and humors. Which there is more of woe or humor in the following, you may judge for yourselves: When the black flies grew troublesome, one of the lads made a search for the inevitable fly-oil. "It is in there in a bottle," directed the other. A bottle was found, and presently, the poor tenderfoot was discovered placidly covering his face with patent shoe-grease. Upon another occasion, the same youth essayed to make yeast-bread. He carefully followed directions, and started his bread in a small pail. Presently that pail was overflowing, and it was necessary to put some into another vessel. But that bread was like the widow's cruse—it kept on rising and rising, until every dish and plate in the shack was full. There were just twenty-four loaves, and only two youths to eat them.

We shall not soon forget that night at The Forks—the beautiful scenery, the still lake, the roses, the glorious sunset, and the yet more beautiful afterglow. There were mosquitoes, but what of that?—Next day we were to be on the home-stretch for camp. (To be continued.)

Hope's Quiet Hour.

Who Are the Rich?

There is that maketh himself rich, yet hath nothing; there is that maketh himself poor, yet hath great riches.—Prov. xiii., 7.

"There were two men beneath the sun, one lacked and one had much; One counted money by the ton, objects of sight and touch.

The 'fat, well-liking' things of earth were all at his command.

Servants, and servers from his birth, stood ever at his hand;

In fact, what he desired he got—each pleasure gratified;

Life ambled, just an easy trot, until the day he died.

"The other man, as men count wealth, had none, or next to naught;

Just trifles, such as wit and health, nothing that might be bought.

Dreams were his friends, the shadowy tribe of visions unfulfilled,

Laughter at things of boast and pride, harvests no hand had tilled.

He was not humble: "You might guess the world his own," folks said,

He overheard and answered, "Yes, it is." They laughed, "his head

Is plainly falling—world, indeed! Who owns no inch of land.

He came of just an obscure breed." They did not understand

Each other, as is often so, since judging men are prone

To talk as though the way all go runs level to their own.

"There were two men beneath the sun, one lacked and one had much;

Yet, if we talked till all were done, should we agree on such?

For one was rich and one was poor, I never saw it o'er and o'er.

But, to distinguish which was which, never what you mean by poor."

It is very easy to deceive one's self about this matter of "riches." Our Lord—in Rev. III.—speaks of some who fancy they are "rich and increased with goods, and have need of nothing," perfectly unconscious that they are "wretched, and miserable, and poor, and blind, and naked." He counsels them to buy of Him "gold tried in the fire," that they may be really rich. It is a self-evident fact—though one that is often overlooked—that gold and jewels are not valuable in themselves, but are only worth what they will buy. A miner in the Yukon may be weighted down with gold, ready to give it all for food and warmth, yet dying for want of the common necessities of life, far from shelter or friends—his gold is, in such a case, worth no more than stones. He is not rich, but awfully, desperately poor. A man may be a millionaire, able to eat off gold plates, and yet hardly able to enjoy any food, because his digestion has been ruined by the nervous strain of piling up more money than he can use. Gold plate may be all very well for a few days, but, when the novelty wears off, the poor dyspeptic millionaire would surely find a healthy appetite and digestion more valuable. A "rich" lady, in silk and lace, who has sold her woman's crown of glory for gold, and married for money instead of for love, may well feel herself a beggar as compared with the busy, happy wife and mother—wife in more than name, mother of loving children who claim her sympathy and care as their right.

I saw in a newspaper the other day the description of a funeral which took place lately in Paris. A multi-millionaire had died, evidently expecting that even after death his millions could minister to his self-gratification. According to his directions a great display was made. The coffin cost \$100,000. The shroud was cloth of gold, and the pearl buttons on the waistcoat were valued at \$100,000. Everything was on a scale of the utmost magnificence—though how such display could give any satisfaction to a soul that had left material things behind, it would be hard to say. But the funeral was a terrible mockery, for gold spent in selfish fashion cannot buy love, nor even respect. The poor were angry with the man who had thrown away vast sums in senseless extravagance for his own selfish caprice. They could not be restrained, even by the police, but interrupted the ceremony by cat-calls, tin whistles, and hisses. The funeral was, indeed, an affair of note, attracting great attention, though hardly the kind of attention desired by the man who had imagined himself rich, when he was really so poor that even the thousands of people who had been working in his employ showed neither regret for his death, nor respect for his body. Was he rich?

When the Sultan of Turkey was deposed, and his harems scattered, the Circassian women who were fortunate enough to return to their homes, thought they had exchanged poverty for riches. Many of them took up gladly a life of hard work, and considered the scanty fare of home a great improvement on the luxury of the harem. Think of the peace of living among people who loved them, instead of being surrounded by those who fawn upon them and pry out their secrets, each one trying to rise by pushing others down. Fine clothes and idle days can never satisfy anybody. These do not constitute riches.

William C. Gannett says: "The workless people are the worthless people, even to themselves. What wealth gives, or should give, is choice of work, never exemption from it. A man born rich, is born into danger. He, as also the man quick to win riches, must make himself trustee for causes not his own, or else his riches become his doom. In our land, at least, a 'gentleman,' whatever else he is, must be a good workman; that is, one who has something to do, who can do it well, and who always does it well."

"And if you are seeking pleasure Or enjoyment in full measure, Do something. Idleness! there's nothing in it; 'Twill not pay you for a minute— Do something."

Riches that are allowed to stagnate are valueless. The miser, who starves himself that he may count his gold—gold which is doing no good to anybody—might

just as well count yellow stones, or bits of glass. The learned man, who shuts himself up from his fellows, "taking in" continually with no intention of "giving out," is missing the opportunity which the riches of his knowledge open to him, and is almost as poor as the miser with his pile of unused gold. It is the same with everything. God gives us many things—life, time, money, talents of various kinds, most of all, the power of loving—if we allow these gifts to stagnate, or if we try to use them principally for ourselves, then we grow steadily poorer. If we pour them out generously—knowing ourselves to be only stewards in God's household—then we are really rich. Then, only, we are winning the great prize which life offers. For life, as Browning declares,

"Is just our chance of the prize of learning Love."

Are we setting ourselves with all our might to the business of growing rich in Love? If not, don't let us waste precious time over less-important business any longer.

"Wherefore do ye spend money for that which is not bread? and your labor for that which satisfieth not?" Some day we shall feel that the years which might have been poured out for love's sake, and which have been wasted in selfishness—perhaps in hard but selfish toil—were a priceless opportunity, not to be regained. "Now is the day of salvation," not only because death may surprise us at any moment, but for other reasons. Life is too splendid an opportunity, too solemn a responsibility to be frittered away, when it may be glorified and made beautiful, simply by being consecrated, laid at God's feet for His purposes, and filled with His life and light.

There is a story told of a Sibyl who once came to a king and offered to sell him nine books of oracles for a great price. While he hesitated, three books were burned. Again she asked the same price for the six books which remained. He still hesitated to pay the price, and again three books were burned. Still the same price was demanded for the remaining three. Then the king paid it, and discovered—by the priceless value of the volumes he had gained—what a treasure had been lost in the other six books, a treasure that could never be recovered.

So it is with our life. God asks for it all, asks because He loves us, and knows that a life entirely consecrated to Him is infinitely rich. If we waste the first and best years, intending to devote a few to His service when we get near death, we are destroying a treasure. Who can give us back the years that have been recklessly squandered? The talents carefully laid out for the Master, become the treasure of the faithful steward. "The blessing of the LORD, it maketh rich, and He addeth no sorrow with it."

One who seeks to be rich without God's blessing, is simply heaping up a great burden to crush him miserably. Some men can be bought with gold—they are the men whose favor is not worth buying—but even they are only pretending to bow down in respectful homage before the rich man. Money cannot buy real respect from anybody, while true worth of character—the real riches—never fails to win appreciation even from enemies.

And it is utter folly to seek riches unlawfully, fancying that God takes no notice, because He lets the oppressor go on his way for a time unchecked. It is folly to obtain money dishonestly, or by grinding down the poor, and then try to make everything straight with God by giving large sums to charitable societies.

"Will He esteem thy riches? No, not gold, nor all the forces of strength."—Job xxxvi., 19.

"Treasures of wickedness profit nothing; but righteousness delivereth from death. The LORD will not suffer the soul of the righteous to famish; but He casteth away the substance of the wicked.—Prov. x., 2, 3."

"They shall cast their silver in the streets, and their gold shall be removed; their silver and their gold shall not be able to deliver them in the day of the wrath of the LORD."—Ezek. vii., 19.

But it is little use to multiply texts—we all know that wealth cannot blind the eyes of men to unrighteousness, how much less can it buy God's favor. We may be rich, if we will—rich in the dear

blessing of God—every day. And life is made up of days, so a lifetime of riches is waiting at the door, waiting to be gathered up. God grant that none of us may sadly lament:

"Who's seen my day?
'Tis gone away,
Nor left a trace
In any place.
If I could only find
Its footfall in some mind,
Some spirit-waters stirred
By wand of deed or word,
I should not stand at shadowy eve
And for my day so grieve and grieve."

DORA FARNCOMB.

Dora Farncomb's "Vision of His Face."

An Appreciation by Canon Hague.

It needs a bold heart to publish a book for the first time. It needs an especially bold heart to publish a book of this kind for the first time in Canada. Our reading public have all along been accustomed to ask if any good thing could come out of Canada, and any book be published outside of England or the United States. We congratulate Miss Farncomb, therefore, on her work, the "Vision of His Face," which has been, we understand, not only written in London, but printed and published in our city also. The "Vision of His Face" is a well-printed volume of 224 pages, neatly bound, and presenting altogether a very pleasing make-up as a volume. The content of the book is valuable in the extreme. It is a devotional work of deeply spiritual quality, which carries its appeal to all devout and spiritually-minded readers. There is nothing narrow, sectarian, or of a transient character about the book. It appeals to that universal heart which is ever craving for the higher and the highest. If the Master tarries and comes not, this message will be just as real for the dwellers in the 30th as in the 20th century, for its center is that everlasting theme, the "Vision of His Face." In a series of interesting chapters, the author shows how the vision of the face of the Lord Jesus Christ has always been and ever will be the power that purifies, transforms, awakens, revivifies and stimulates to the highest action and most heroic patience the lives of men. What we admire most about the book is its strength and clearness on the old-fashioned Biblical lines. There is not a thing, from beginning to end, scarcely, that any Christian could not heartily accept and be profited by.

And while the book throughout is devotional, it is, at the same time, very deeply practical, and there are from time to time little suggestions that are admirably applicable to the tense life of our present age. Here is a sentence, for instance: "Our business as Christians is to be as healthy as possible, unless we are absolutely sure there is no way to escape. It is wrong to sink down with meek helplessness into chronic invalidism. Patience is sometimes vicious, when it is submission to evils that can be cured. We commit a sin when we try to live without rest, exercise and fresh air."

Some of the quotations are also very fine. The author seems to fear when she touches for a brief moment upon the subject of Holy Communion, that her words may smack of the controversial, and, perchance, offend some readers. In our opinion, she need have no such fears. There is nothing in the chapter that any truly loving Christian of any name or sect could not heartily approve of. Indeed, the whole tone of the book is above the narrow lines of any special denomination, and rises into that lofty atmosphere of the true Catholic Church, the blessed company of all who love the Lord Jesus Christ in sincerity. We most heartily commend the book. It ought to be a helper to many—the anxious, the despondent, the nervous, the spent and the worn. It ought to inspire the loyal. It ought to cheer the hypochondriac, and many a clergyman, Sunday-school teacher and Christian worker ought to find in it increment of hope and inspiration of life. —From "The Free Press," London, Ont.

THE VISION OF HIS FACE.

By the author of "Hope's Quiet Hour." Sent postpaid, for one dollar, by The Wm. Weld Co., London, Ont.



W
D YOU EVER FIGURE
THE COST of a single day's
baking — the material, fuel,
time and labor—and consider
that it is all wasted if the
baking is a failure?

Is it economy, then, to use a
flour of uncertain quality when
a few cents more will buy

Royal Household Flour

—a flour that you can depend
upon to produce light, crisp and
wholesome bread or pastry?

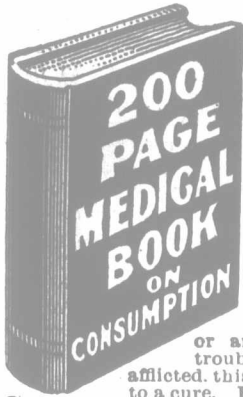


It is made from selected hard
wheat, milled by a most modern
process which guarantees absolute
purity.

Royal Household Flour does
not vary in quality — does not
disappoint. 17

Ogilvie Flour Mills Co., Limited, Montreal.

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., 1335 Rose Street, Kalamazoo, Mich., and they will send you from their Canadian Depot the book and a generous supply of the New Treatment, absolutely free, for they want every sufferer to have this wonderful cure before it is too late. Don't wait—write today. It may mean the saving of your life.

Cowan's Perfection Cocoa

Let the children drink all they want. Healthful, nutritious, delightful.

Absolutely pure. That rich chocolate flavor. Very economical.

The Cowan Co. Limited, Toronto.

Please Mention Farmer's Advocate.

Save Roof Money

Don't judge roofing by the way it looks. There are more than 300 substitutes for the genuine Ruberoid. They have names which sound like Ruberoid. Before they are laid they look like Ruberoid.

But a single summer tells the difference. For there is no rubber in Ruberoid. It is not a tar roofing. Not an asphalt roofing. Not an asbestos roofing. Its wonderful properties are due to our exclusive product—Ruberoid gum. This gum is flexible like new rubber—but it permanently withstands the heat, the cold, the rain, the snow—which rubber will not do. It is so nearly fireproof that hot coals thrown on a roof of Ruberoid set fire neither to the roofing, nor to the timbers underneath.

RUBEROID

(TRADEMARK REGISTERED)
Ruberoid roofing was the first ready roofing by several years. Asphalt roofings and the so-called "rubber" and "asbestos" roofings have come and gone and been replaced. While the first roofs of Ruberoid—put on more than seventeen years ago—look still good for many more years of service. Ruberoid roofing is also made in colors. These colors—Red, Brown, Green—are a part of the roofing. They do not wear off or fade.

Get This Free Book

Before deciding on any roofing for any purpose, get our free book, which gives the results of our tests with all kinds of roofings—shingle, tar, tin, asphalt and ready roofings. This book is a gold mine of practical roofing information, and will be sent free to all who address Department 507, The Standard Paint Company of Canada, Ltd., Montreal, Canada.

ONTARIO And Conservatory of Music and Art LADIES' and Whitby COLLEGE, Ontario (Trafalgar Castle)

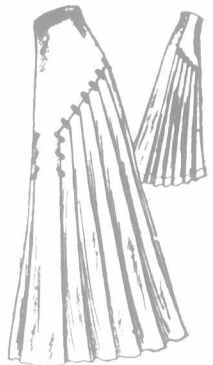
Paternal buildings, acknowledged to be unequalled in Canada by those of any other Ladies' School or College; ideal location in a Collegiate town near Toronto, giving to those who desire it easy access to city concerts; magnificent College property embracing one hundred acres, and having a campus sufficiently large to enable all students to play at the same time without interfering with each other; gymnasium, 40 x 60 feet; careful home and social training that will be likely to impart the essentials of good manners under moral and Christian influences; last, but not least, the recognized leadership, staff, equipment and courses of study. Take note of the fact that teachers of Dominion reputation are at the head of the various departments. It will pay you to consider the above special advantages and send for calendar to the

REV. J. J. HARE, Ph.D., Principal

"The Farmer's Advocate" Fashions.



6378 Misses' Drawers, 12, 14 and 16 years.



6373 Eight Gored Skirt, 22 to 30 waist.



6328 Infant's Long or Short One-Piece Kimono, One Size.

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

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

Current Events.

Over 200 English deaf mutes visited Paris recently, at the invitation of a number of French deaf mutes, who had been the guests of a similar organization in London last year.

A new explosive, "ammonal," is being tested in Germany. As this explosive cannot be set off by ordinary means, but requires a special detonator, the danger of accidents will be materially diminished.

Rembrandt's "Descent from the Cross" was recently sold in London, Eng., for 7,800 guineas; "East Cowes Castle," by Turner, for 6,500 guineas; and a Cuypp for 1,680 guineas. King Leopold's collection of old masters went for an enormous sum to a French dealer, some of them being immediately bought by J. P. Morgan.

St. Paul's, the oldest and largest of the London (Eng.) schools, recently celebrated its 100th anniversary. It has numbered many

of a to t jurec agi tory war AN In who cond ket tion, sure path lions Old to w shill lings maj more lars) such latio tene no r how crow cipal of l term find ing s of h skirt event slum those made As come On Its state work main land Mrs. ing a tate is fo effecti to th Calif surp and mana ice t its nomic nition keenly with like-m To specia forded epoch Cong were tion, Govern philar traini pursui of the they throu mand, which them. It is when delega on Coast welcom they all ex with ed at a repo most guests "Oh, Its siz the pr looking their had no such a which a testi all ali own pe them t heard minion

Some Last Echoes of Our Great Opportunity.

Amongst the echoes which have reached us from across the ocean, are those telling of the somewhat eventful voyage of Her Excellency Lady Aberdeen and suite, the Megantic having encountered an impenetrable fog of thirty-six hours' duration, on the Banks off Newfoundland, with the subsequent meeting of a number of icebergs. Soon after landing, two valuable testimonies were published in the Irish Times, as publicly given by Sir William J. Thompson, M. D., to the effect that, "The Canadians are the most cordial, warm-hearted and friendly people one could wish to meet," and also, "That, in health matters, in preventive measures to combat tuberculosis, both Canada and the United States are very much ahead of Ireland; that, in almost all the large cities visited by their party, they found the organization in the fight against consumption almost perfect." Amongst the agencies quoted in proof of this assertion, were the following: Tuberculosis exhibitions, a system of compulsory notification, sanatoria for incipient cases, dispensaries, with visiting nurses attached; day-camps, open-air schools for children, and hospitals for advanced cases.

The strenuous efforts made by Her Excellency Lady Aberdeen to combat the dread disease in Ireland are well known, and it is gratifying to learn that the records of that crusade have appealed with especial force to many in the United States and Canada who are of either Irish parentage or descent. In one instance a gentleman came forward with a promise, "in memory of his father," of substantial financial help in the campaign instituted by Lady Aberdeen in Dublin.

PREVENTION BETTER THAN CURE.

This seemed to be the text chosen more or less directly on every platform in every section of the Quinquennial Congress; for, to quote from the pamphlet issued by our own Mr. Kelso, "The criminals in our jails, the useless and burdensome paupers in our almshouses, the feeble-minded, and a large number of the inmates in our asylums, all point with more or less force to a neglected youth; while the stern fact that these classes cost the people of Ontario nearly one-third of the public revenue, gives an additional reason for a wise and vigilant child-protection."

One of the speakers, a Chicago worker upon nearly every philanthropic line, said that, "Work among the juveniles is not only a moral, but an economic advantage. It takes less money to keep children out of crime than it does to look after them when they have started upon it as a career." And, when upon the subject of "Playgrounds," Miss Sadie American, one of the most apt and forceful speakers of the Congress, had this to say as the result of her personal observation: "I have driven all over your beautiful city; I have seen splendid houses, but little grounds—no space for play. That is the ear-mark of our modern civilization. I agree with the saying, that, 'The boy without a playground, is the father of the man without a job,' and, further, that the newsboy who hovers around the street-corners is, in spite of his vim and smartness, destined to be the father of the man who will have to go to the poorhouse, because when he has a job, he cannot hold it."

Miss Jane Addams, an authority on every effort touching upon the betterment of social conditions, told

of a little child who had to be sent to the hospital, because she had injured herself by beating her head against the wall. "Work in a factory all day, and no fun at night," was the explanation.

AN ECHO FROM GREAT BRITAIN.

In counting up our blessings, we who live in Canada, where congested conditions and an overstocked market for women's work is the exception, rather than the rule, should surely let our hearts go out in sympathy to the three and a half millions of women wage-earners in the Old Land, thousands of whom have to work for wages ranging from two shillings and sixpence to four shillings (one dollar) per week, the great majority not earning, on an average, more than eight shillings (two dollars) per week. No wonder there is such a crying necessity for the regulation of what is known as "the tenement evil," tenements being by no means a solution of the problem how the poor are to be housed in crowded areas of large cities. Municipalities are trying to obtain leases of land for development, on easy terms, but it is heart-breaking to find that, while they are busy removing slums from a center, wide belts of houses are springing up on outskirts, so built and planned that eventually they must degenerate into slums, as much to be dreaded as those of which a riddance is being made.

As a marked contrast to the above, comes the following breezy

ECHO FROM CALIFORNIA.

On the subject of "The Soil and Its Products," some interesting statements were made regarding the work of women in the making and maintenance of 'homes upon the land' in California, a lady there, Mrs. Shafter-Howard, herself managing and overseeing a California estate of 70,000 acres, 13,000 of which is forest area, which she is taking effective steps to conserve according to the most approved methods. The California Union of Women records surprising success in agriculture and horticulture, forestry, and the management of estates, their service to their country in this field, its general significance and economic value receiving growing recognition. California women are keenly interested in comparing notes with their sisters of other countries, like-minded with themselves.

To all of these had come with special interest the opportunity afforded by the visit to Guelph—an epoch day in the eventful weeks of Congress, when the guests of Canada were shown, by practical demonstration, that, not only did a paternal Government, aided by broad-minded, philanthropic Canadians, provide a training in agricultural and domestic pursuits for the young womanhood of the land, but, wherever possible, they sought to open up for them, through every channel at their command, healthy and useful careers for which their college course had fitted them.

A LAST ECHO.

It is very gratifying to learn that, when the rear-guard of the overseas delegates passed through Toronto, on their return from the Pacific Coast, where they had been feted and welcomed at every point at which they had stopped by the way, they all expressed themselves as delighted with what they had seen, and amazed at the magnitude of the land. To a reporter, Frau Stritt, one of the most able and accomplished of our guests from Germany, exclaimed: "Oh, your great, beautiful country. Its size fills me with wonder. And the prairies! I never got tired of looking at them and marvelling at their great expanses. We Germans had no idea that your Canada was such a big place"—a conclusion to which all apparently had come, and a testimony which our visitors seem all alike prepared to give to their own people when they carry back to them the story of all they saw and heard during their visit to the Dominion, of which we are so proud.

H. A. B.

The Ingle Nook.

[Rules for correspondents in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen-name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on.]

Hints on Laundry.

[Condensed from a pamphlet issued in the Cornell Reading Course.]

While Monday has long been chosen as the household day for washing, there is good reason for choosing Tuesday as the better day. Before wash day, clothing should be gone over to discover rents and stains, should be carefully sorted, and the white clothes put to soak overnight. All the clothing should not be put to soak in the same tub. Table linen, etc., should be kept by themselves in one tub, bed and body linen in another, and soiled towels, etc., in a third. If colds have prevailed in the family, the handkerchiefs should be put to soak in a basin by themselves, in a solution of boric acid, and should be separately washed and boiled.

Wet the garment to be soaked, rub the more soiled parts with soap, fold this part in to keep the dirt from spreading, and roll tightly. Cover the clothes with warm, soapy water, to which a little borax or ammonia and a little turpentine or kerosene have been added. If colored clothes are to be soaked, simply cover with warm water.

Have plenty of hot water before beginning the washing, also have a soap solution, made by dissolving one cake of soap to two or three quarts of water, on hand. Now rinse the clothes from the water in which they were soaked, leaving behind as much of the dirt as possible. Wring out and put into the washing tub or machine. Pour warm water, to which sufficient soap solution, also a tablespoon of kerosene or turpentine, have been added, over the clothes, and proceed with the washing. It is well to remember here that after the clothes have once been warmed, an even or rising temperature should be maintained, as cooling contracts the fibres and makes the washing more difficult. Such a temperature may be maintained by adding boiling water at frequent intervals.


A second suds is generally necessary if the clothing is much soiled. Rinse out of this, rubbing any soiled parts that may have been overlooked, then wring out and boil. Clothes should be clean before they are boiled, as this part of the process is not so much to remove visible dirt as to complete the washing process by destroying germs. Boiling is omitted when naphtha soap is used, but the clothes will be a better color if boiled once a month. When boiling, put plenty of cold water in the boiler, and add enough soap solution to make a light suds. Put in the clothes, bring gradually to a boil, and boil ten minutes. Kerosene or turpentine are sometimes added, but very careful rinsing afterwards is necessary to remove the odor.

Rinsing is an important part of the washing process. If the water is hard, it should be softened with either borax or ammonia. This water should also be hot. The clothes should be lifted from the boiler into a dishpan, and wrung before being put into the rinsing water. It is not always easy to rinse through two waters, but better results are obtained by doing so.

Wring from rinsing water and blue.

(To be continued.)

EASY TO SEAL



RUBBER SEALER

Fruit is not perfectly preserved unless sealed in Schram Automatic Sealer

The "Schram" is the next best thing to an imperishable fruit jar. It's as clear as crystal and as durable as plate glass because all green glass is rejected when it comes to manufacturing Schram Automatic Fruit Jars.

The "Schram" has a wide, smooth, polished mouth. It admits whole fruit easily. You could not cut your hand on it if you tried.

The "Schram" is easily sealed. Simply place your jars on a level surface, press the automatic sealer gently down—thus forcing the air through two small vent holes. When the cap is pressed home these holes are automatically sealed—your fruit is hermetically sealed. This exclusive feature prevents decomposition—your fruit or vegetables cannot spoil. You can put "Schram" jars away for months or years, and be quite certain that they will not sour or ferment, because no air can enter a sealed Schram jar.

Schram

AUTOMATIC SEALER

50,000,000 in Use

The "Schram" is as easily opened as sealed: Insert the back of an ordinary table knife under the edge of the sealer—pass all around and the cap is off. No wrist-spraining, waiting-for-hubby, old-style, stick-fast, screw top, but a simple scientific arrangement that every housewife will appreciate.

The "Schram" Fruit Jar is the best and cheapest on the market—the best because the most durable—the cheapest because there are no extra rubbers to buy as with other jars.

You'll buy "Schram" Automatic Fruit Jars ultimately. Why not now? **A Dainty Receipt Book Free.** Ask your grocer to show you the "Schram." Send us his name if he doesn't carry them and we'll mail you a pretty little book of seasonable preserving receipts absolutely free.

The Schram Automatic Sealer Co.

Makers of the Only Perfect Automatic Fruit Jar

Waterloo - - Canada

EASY TO OPEN

Brains.

Thomas L. Masson, in Lippincott's Magazine, thus wittily discourses upon a fruitful theme:

"Brains are common to all parts of the country, and traces of them have even been discovered in summer at Lenox, Bar Harbor, and Newport.

"They are originally used to obtain money, but when money is obtained by them it usually takes their place.

"The quality of brains varies in different localities. Mixed with ginger, they become very valuable. With a spine, they are a necessity in every household.

"At one time they influenced literature, but the discovery was made that literature could do without them. Since then they have been almost exclusively devoted to advertising.

"Brains are employed in various enterprises. They make bridges, railroads, and other systems of transportation.

They also create capital, and are used extensively in evading the law. They mix with water, and gasoline, but are absorbed by alcohol.

"Brains are bought and sold in the open market. They may be traded in on the exchange in Washington and Albany, or in other political centers. The best quality, however, are not traded in. Indeed, oftentimes they are not even heard of until long after they have passed away."

"I allus said as old Jarge wor too slow?"

"Wot's 'e bin doin'?"

"Got 'imself run over by a 'earse."

PEASE "ECONOMY" FURNACE

The Enemy of Frost and Coal Bills.

Manufactured by Pease Foundry Co., Ltd., Toronto, Winnipeg

Dish Pan Drudge

Don't be one. A leading farm paper says: "The modern separator no longer contains a bushel basket of 'innards' that require washing. And they skim cleaner than the old contraption, besides." All unprejudiced folks say the same about the light, simple, sanitary, easy to clean, wear a life time Sharples Dairy Tubular Cream Separator—the only modern cream separator made.

The illustration shows the actual difference between simple Dairy Tubular bowls and complicated or "bucket bowls." The manufacture of Tubulars is one of Canada's leading industries.

Sales exceed most, if not all, others combined. Write for catalog 193
THE SHARPLES SEPARATOR CO.
Toronto, Ont. Winnipeg, Man.

 **29 Yrs**



BIG MILK CHECKS

are what every farmer is after. YOUR milk checks can't be nearly as large as they should if your cows are TORTURED day and night by flies.

DR. WILLIAMS'

Fly and Insect DESTROYER

KILLS FLIES.

Gives your cattle comfort while they eat, gives them comfort while they drink, gives them comfort while they sleep, gives you comfort while you milk. You're DOLLARS OUT if you don't use this splendid preparation.

**KILLS THE TEXAS FLY,
KILLS THE ANIMAL LICE,
KILLS ALL THE BAD GERMS,**

in your stables, henhouses, etc.

Mr. J. K. Moore, Smith Township, Peterboro County, owner of one of the finest herds of grade Holstein cattle possibly in Eastern Ontario, says:

"I have been using DR. WILLIAMS' FLY AND INSECT DESTROYER for the past three years with very satisfactory results. We spray the mixture on the cattle every morning. It only takes ten minutes to spray the whole herd. The mixture is great stuff, and to use it on a herd of cattle in fly time is time and money well spent. A light application each morning is all that is necessary, and when put on light, by means of a spray pump, there is not the slightest danger from its use."

Agents wanted. Manufactured by:

THE F. WILLIAMS CO.

Morrisburg, Ont.

Madrid, N. Y.

Send for printed matter, or \$1.00 for 1/2 gallon and sprayer.

Recipes.

Melons.—Nothing is more refreshing to begin breakfast with than a piece of good musk melon or cantaloupe. Place the melon on ice until thoroughly chilled, cut open and scrape out the seeds. Fill the pieces with finely-cracked ice, and serve.

Boston Brown Bread.—Mix in the order given 1 exact half-cup white corn meal, 1/2 cup rye flour, 1/2 cup graham flour, 1/2 teaspoon salt, 1 good half-teaspoon soda pulverized and beaten into 1/2 cup molasses, and 1 1/2 cups sour milk. Steam 3 hours. May be made on wash-day or baking-day, when the fire is kept up.

Easy Sponge Cake.—Three eggs beaten one minute; 1 1/2 cups sugar beaten with the egg for five minutes, add 1 cup flour and beat one minute; then add 1/2 cup cold water and another cup flour in which has been mixed 2 teaspoons baking powder. Beat all together one minute. Bake in a slow oven.

Creamed Carrots.—Young carrots are especially appetizing. Boil until tender in salty water, and serve mixed with a sauce made in the proportion of 1 tablespoon each of butter and flour creamed together and cooked with a cup of milk. Season with salt and pepper—or, better, instead of the pepper use paprika.

Queen of Puddings.—Mix 1 pt. stale bread crumbs in 1 qt. milk. Beat yolks of 4 eggs with 1 cup sugar and 1/2 cup butter. Stir in the milk with the bread crumbs. Flavor with lemon juice and grated rind. Bake in a deep dish until the custard sets. Cover with a meringue made with the four beaten whites and four tablespoons sugar. Set in the oven for a few minutes. A nice addition is to spread jelly or marmalade over the top before putting on the meringue.

Creamed New Potatoes.—For two dozen small potatoes allow 1 1/2 pts. milk, 1 tablespoon butter, 1 1/2 tablespoons cornstarch, 1 teaspoon salt. Moisten the cornstarch in 1/2 cup of milk. Place the rest of the milk on the fire, and add the butter and salt. Have the potatoes boiled until tender, and well drained. Put them in the serving dish, pour the sauce over, dust with paprika, and serve very hot.

Cucumbers, Stewed.—Select rather large cucumbers, peel, cut into halves lengthwise, and then into quarters. Lay them in a shallow granite pan, cover with boiling salted water, and stew gently for 20 minutes. When done, lay carefully on toasted bread, and pour over them this sauce: Two tablespoons butter, 1/2 pint boiling water, 1/2 lemon, 1 tablespoon flour, 1/2 teaspoon salt, and a dash of pepper. Put half of the butter in a stewpan, and, when melted, add the flour. Cook, but do not brown, and when quite smooth add the boiling water. Simmer gently for about 10 minutes, stirring all the time, then add the rest of the butter and the seasoning, and serve at once.

Lettuce, Boiled.—The large green leaves of lettuce which cannot be used as salad, may be boiled like spinach.

Green Corn, Stewed.—Husk, and boil for ten minutes. When cool enough to handle, draw a sharp knife down each row of kernels, press the pulp from the hulls with the back of the knife, place it in a stewpan, and to every pint add 1/2 teaspoon salt, 1/2 teaspoon sugar, 1/2 teaspoon pepper, 1 tablespoon butter, and 1/2 cup of thin cream or good milk. Let simmer ten minutes, and serve very hot.

Cucumber cups.—Leave the cucumbers unpeeled (large ones), cut into sections 2 inches long, and cook until tender in boiling water. Take out, and scoop out the center carefully, leaving 1/4-inch thickness all around the sides and on the bottom. Fill these cups with creamed chicken or sweetbreads.

The Golden Dog

(Le Chien D'Or.)

A Canadian Historical Romance.

Copyright, 1897, by L. C. Page & Co. (Inc.)

[Serial Rights Secured by the Wm. Weid Co., Ltd., London, Ont.]

CHAPTER XXIX.

Felices ter et Amplius.

Amelie, by accident, or by contrivance of her fair companions—girls are so wily and sympathetic with each other—had been left seated by the side of Philibert, on the twisted roots of a gigantic oak, forming a rude but simple chair fit to enthrone the king of the forest, and his dryad queen. No sound came to break the quiet of the evening hour, save the monotonous plaint of a whippoorwill in a distant brake, and the ceaseless chirm of insects among the leafy boughs and down in the ferns that clusted on the knolls round about.

Philibert let fall upon his knee the book which he had been reading. His voice faltered, he could not continue without emotion the touching tale of Paolo and Francesca da Rimini. Amelie's eyes were suffused with tears of pity, for her heart had beat time to the music of Dante's immortal verse as it dropped in measured cadence from the lips of Philibert.

She had read the pathetic story before, but never comprehended until now the weakness which is the strength of love. Oh, blessed paradox of a woman's heart! And how truly the Commedia, which is justly called Divine, unlocks the secret chambers of the human soul.

"Read no more, Pierre," said she, "that book is too terrible in its beauty and in its sadness! I think it was written by a disembodied spirit who had seen all worlds, knew all hearts, and shared in all sufferings. It sounds to me like the sad voice of a prophet of woe."

"Amelie," replied he, "believe you

there are women faithful and true as Francesca da Rimini? She would not forsake Paolo even in the gloomy regions of despair. Believe you that there are such women?"

Amelie looked at him with a quick, confident glance. A deep flush covered her cheek, and her breath went and came rapidly; she knew what to answer, but she thought it might seem overbold to answer such a question. A second thought decided her, however. Pierre Philibert would ask her no question to which she might not answer, she said to herself.

Amelie replied to him slowly, but undoubtingly: "I think there are such women, Pierre," replied she, "women who would never, even in the regions of despair, forsake the man whom they truly love, no, not for all the terrors recorded in that awful book of Dante!"

"It is a blessed truth, Amelie," replied he, eagerly; and he thought, but did not say it, "Such a woman you are; the man who gets your love gets that which neither earth nor heaven nor hell can take away." He continued aloud, "The love of such a woman is truly given away, Amelie; no one can merit it! It is a woman's grace, not man's deserving."

"I know not," said she; "it is not hard to give away God's gifts; love should be given freely as God gives it to us. It has no value except as the bounty of the heart, and looks for no reward but in its own acceptance."

"Amelie!" exclaimed he, passionately, turning full towards her; but her eyes remained fixed upon the ground. "The gift of such a woman's love has been the dream, the ambition of my life! I may never find it, or having found it may never be worthy of it; and yet I must find it or die! I must find it where alone I seek it—there or nowhere! Can you help me for friendship's sake—for love's sake, Amelie de Repentigny, to find that one treasure that is precious as life, which is life itself to the heart of Pierre Philibert?"

He took hold of her passive hands. They trembled in his, but she uttered

Suffered For Thirty Years With Catarrh of The Stomach.

Mr. John Raitt, 71 Coursol St., Montreal, Que., has used Milburn's Laxa-Liver Pills and recommends them to all his friends. He writes:—"I take pleasure in writing you concerning the great value I have received in using Milburn's Laxa-Liver Pills for Catarrh of the Stomach, with which I have been a sufferer for thirty years. I used five bottles and they made me all right. I also had a very severe attack of La Grippe, and a few doses acted so quickly that it was unnecessary to call in a doctor to cure me. For the small sum of 25 cents we have our own doctor when we have Milburn's Laxa-Liver Pills."

Price 25 cents per vial, or 5 for \$1.00, at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

What They Are Saying.

Harrisburg, July 24th, 1909.

The Clement Brown Trading Co., Toronto:

Dear Sirs,—The goods invoiced us July 6th arrived promptly. We were well pleased with everything, having found everything very satisfactory. Shall be pleased to give further orders.

Yours respectfully,

(Signed) MRS. S. J. McLANE.

A fair sample of letters we receive, entirely unsolicited, from our patrons. Just such a letter as you yourself would write if dealing with us. It spells satisfaction in prices, goods, service—in a word, everything. Try us for GROCERIES, HARNESS, TOP BUGGIES, TINWARE—anything you like.

The Clement Brown Trading Co.,
Toronto, Ont.

POULTRY AND EGGS

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.

S-C. WHITE LEGHORNS of prizewinning strains. Eggs priced for remainder of season, 75c. for 15, hatch guaranteed. Geo. D. Fletcher, Binkham, Ont., Erin Station.

WANTED

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.

CLIENT of ours holds several South African scrips. We shall be pleased to quote lowest price on application. Brent, Noxon & Co., Canada Life Bldg., Toronto.

MODERN 110-acre farm. Best of buildings. Best corn and fruit land. 33 feet outside the Town of Amherstburg, Essex County. 30 acres choice fruit, balance grain, etc. Ideal location for a dairy. Apply Dr. Bowman, Amherstburg, Ont.

WANTED—Man with grown family to work farm on shares. Milk business in connection. Immediate possession. W. J. Stockdale, Bridgeburg.

This is a Sargent story. A millionaire of coarse extraction, went to Mr. Sargent's studio and had his portrait done. When the portrait was finished, the millionaire looked at it closely, and then said with a frown:

"Not bad, Mr. Sargent; not at all bad, but you've left out one most essential feature." Mr. Sargent bit his lips to hide a smile.

"Excuse me, sir," he said, "but I thought you wouldn't care to have the ears—warts produced." The millionaire, purple with rage, shouted: "Confound it, sir, I'm talking about the diamond rings and pin—not the warts!"

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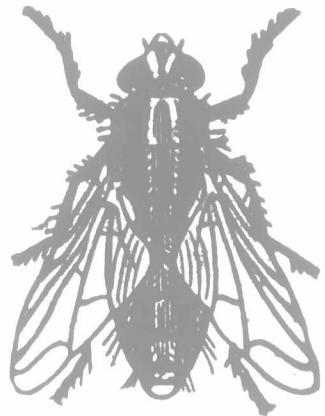
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not to withdraw them. Indeed, she hardly noticed the act in the tide of emotion which was surging in her bosom. Her heart moved with a wild yearning to tell him that he had found the treasure he sought—that a love as strong and as devoted as that of Francesca da Rimini was her own free gift to him.

She tried to answer him, but could not. Her hand still remained fast locked in his. He held to it as, a drowning man holds to the hand that is stretched to save him.

Philibert knew at that moment that the hour of his fate was come. He would never let go that hand again till he called it his own, or received from it a sign to be gone forever from the presence of Amelie de Repentigny.

The soft twilight grew deeper and deeper every moment, changing the rosy hues of the west into a pale, ashen gray, over which hung the lamp of love—the evening star, which shines so brightly and sets so soon—and ever the sooner as it hastens to become again the morning star of a brighter day.

The shadow of the broad, spreading tree fell darker round the rustic seat where sat these two—as myriads have sat before and since, working out the problems of their lives, and beginning to comprehend each other, as they await with a thrill of anticipation the moment of mutual confidence and fond confession.

Pierre Philibert sat some minutes without speaking. He could have sat so forever, gazing with rapture upon her half-averted countenance, which beamed with such a divine beauty, all aglow with the happy consciousness of his ardent admiration, that it seemed the face of a seraph; and in his heart, if not on his knees, he bent in worship, almost idolatrous, at her feet.

And yet he trembled, this strong man who had faced death in every form but this! He trembled by the side of this gentle girl—but it was for joy, not for fear. Perfect love casts out fear, and he had no fear now for Amelie's love, although she had not yet dared to look at him. But her little hand lay unrepovingly in his—nestling like a timid bird which loved to be there, and sought not to escape. He pressed it gently to his heart; he felt by its magnetic touch, by that dumb alphabet of love, more eloquent than spoken words, that he had won the heart of Amelie de Repentigny.

"Pierre," said she—she wanted to say it was time to rejoin their companions, but the words would not come. Her face was still half-averted, and suffused with an unseen blush, as she felt his strong arm round her; and his breath, how sweet it seemed, fanning her cheek. She had no power, no will to resist him, as he drew her close, still closer to his heart.

She trembled, but was happy. No eye saw but God's through the blessed twilight; and "God will not reprove Pierre Philibert for loving me," thought she, "and why should I?" She tried, or simulated, an attempt at soft reproof, as a woman will who fears she may be thought too fond and too easily won, at the very moment she is ready to fall down and kiss the feet of the man before her.

"Pierre," said she, "it is time we rejoin our companions; they will remark our absence. We will go."

But she still sat there, and made no effort to go. A gossamer thread could have held her there forever, and how could she put aside the strong arm that was mightier than her own will?

Pierre spoke now; the feelings so long pent up burst forth in a torrent that swept away every bond of restraint but that of love's own laws.

He placed his hand tenderly on her cheek, and turned her glowing face full towards him. Still she dared not look up. She knew well what he was going to say. She might control her words, but not her tell-

ing eyes. She felt a wild joy flashing and leaping in her bosom, which no art could conceal, should she look up at this moment in the face of Pierre Philibert.

"Amelie," said he, after a pause, "turn those dear eyes, and see and believe in the truth of mine! No words can express how much I do love you!"

She gave a start of joy—not of surprise, for she knew he loved her. But the avowal of Pierre Philibert's love lifted at once the veil from her own feelings. She raised her dark, impassioned eyes to his, and their souls met and embraced in one look both of recognition and bliss. She spake not, but unconsciously nestled closer to his breast, faltering out some inarticulate words of tenderness.

"Amelie," continued he, straining her still harder to his heart, "your love is all I ask of Heaven and of you. Give me that. I must have it, or live henceforth a man forlorn in the wide world. Oh, say, darling, can you, do you care for me?"

"Yes, indeed I do!" replied she, laying her arm over his neck, as if drawing him towards her with a timid movement, while he stooped and kissed her sweet mouth and eyes in an ecstasy of passionate joy. She abandoned herself for a moment to her excess of bliss. "Kiss me, darling!" said he; and she kissed him more than once, to express her own great love, and assure him that it was all his own.

They sat in silence for some minutes; her cheek lay upon his as she breathed his name with many fond, faltering expressions of tenderness.

He felt her tears upon his face. "You weep, Amelie," said he, starting up and looking at her cheeks and eyes, suffused with moisture.

"I do," said she, "but it is for joy! Oh, Pierre Philibert, I am so happy! Let me weep now; I will laugh soon. Forgive me if I have confessed too readily how much I love you."

"Forgive you! 'tis I need forgiveness; impetuous that I am to have forced this confession from you to-night. Those blessed words, 'Yes, indeed I do,'—God's finger has written them on my heart forever. Never will I forsake the dear lips which spake them, nor fail in all loving duty and affection to you, my Amelie, to the end of my life."

"Of both our lives, Pierre," replied she; "I can imagine no life, only death, separated from you. In thought you have always been with me from the beginning; my life and yours are henceforth one."

He gave a start of joy. "And you loved me before, Amelie!" exclaimed he.

"Ever and always; but irrevocably since that day of terror and joy when you saved the life of Le Gardeur, and I vowed to pray for you to the end of my life."

"And during these long years in the Convent, Amelie—when we seemed utterly forgotten to each other?"

"You were not forgotten by me, Pierre! I prayed for you then—earnest prayers for your safety and happiness, never hoping for more; least of all anticipating such a moment of bliss as the present. Oh, my Pierre, do not think me bold! You give me the right to love you, without shame, by the avowal of your love to me."

"Amelie!" exclaimed he, kissing her in an ecstasy of joy and admiration, "what have I done—what can I ever do to merit or recompense such condescension as your dear words express?"

"Love me, Pierre! Always love me! That is my reward. That is all I ask, all my utmost imagination could desire."

"And this little hand, Amelie, will be forever mine?"

"Forever, Pierre, and the heart along with it."

He raised her hand reverently to his lips and kissed it. "Let it not be long," said he. "Life is too short to curtail one hour of happi-

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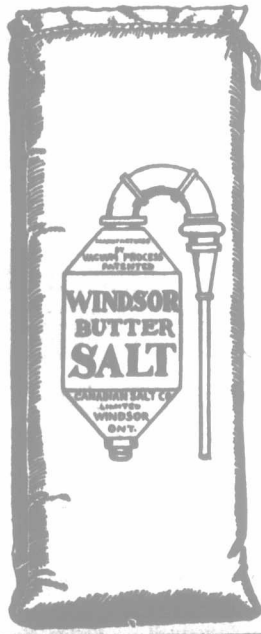
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ness from the years full of trouble which are most men's lot."

"But not our lot, Pierre, not ours. With you I forbode no more trouble in this life, and eternal joy in the next."

She looked at him, and her eyes seemed to dilate with joy. Her hand crept timidly up to his thick locks; she fondly brushed them aside from his broad forehead, which she pressed down to her lips and kissed.

"Tell my aunt and Le Gardeur when we return home," continued she. "They love you, and will be glad—nay, overjoyed, to know that I am to be your—your—"

"My wife!—Amelie, thrice-blessed words! Oh, say my wife!"

"Yes, your wife, Pierre! Your true and loving wife forever."

"Forever! Yes. Love like ours is imperishable as the essence of the soul itself, and partakes of the immortality of God, being of him and from him. The Lady de Tilly shall find me a worthy son, and Le Gardeur a true and faithful brother."

"And you, Pierre! Oh, say it; that blessed word has not sounded yet in my ear—what shall I call you?" And she looked in his eyes, drawing his soul from its inmost depths by the magnetism of her look.

"Your husband—your true and loving husband, as you are my wife, Amelie."

"God be praised!" murmured she in his ear. "Yes, my husband! The blessed Virgin has heard my prayers." And she pressed him in a fond embrace, while tears of joy flowed from her eyes. "I am indeed happy!"

The words hardly left her lips when a sudden crash of thunder rolled over their heads and went pealing down the lake and among the islands, while a black cloud suddenly eclipsed the moon, shedding darkness over the landscape, which had just begun to brighten in her silvery rays.

Amelie was startled, frightened, clinging hard to the breast of Pierre as her natural protector. She trembled and shook as the angry reverberations rolled away in the distant forests. "Oh, Pierre!" exclaimed she, "what is that? It is as if a dreadful voice came between us, forbidding our union! But nothing shall ever do that now, shall it? Oh, my love!"

"Nothing, Amelie. Be comforted," replied he. "It is but a thunderstorm coming up. It will send Le Gardeur and all our gay companions quickly back to us, and we shall return home an hour sooner, that is all. Heaven cannot frown on our union, darling."

"I should love you all the same, Pierre," whispered she. Amelie was not hard to persuade; she was neither weak nor superstitious beyond her age and sex. But she had not much time to indulge in alarms.

In a few minutes the sound of voices was heard; the dip and splash of hasty paddles followed, and the fleet of canoes came rushing in to shore like a flock of waterfowl seeking shelter in bay or inlet from a storm.

There was a hasty preparation on all sides for departure. The campfires were trampled out, lest they should kindle a conflagration in the forest. The baskets were tossed into one of the large canoes, Philibert and Amelie embarked in that of Le Gardeur, not without many arch smiles and pretended regrets on the part of some of the young ladies for having left them on their last round of the lake.

The clouds kept gathering in the south, and there was no time for parley. The canoes were headed down the stream, the paddles were plied vigorously; it was a race to keep ahead of the coming storm, and they did not quite win it.

The black clouds came rolling over the horizon in still blacker masses, lower and lower, lashing the very earth with their angry skirts, which were rent and split with vivid flashes of lightning. "The rising wind at most overpowered with its roaring

the thunder that pealed momentarily nearer and nearer. The rain came down in broad, heavy splashes, followed by a fierce, pitiless hail, as if Heaven's anger was pursuing them.

Amelie clung to Philibert. She thought of Francesca da Rimini clinging to Paolo amidst the tempest of wind and the moving darkness, and uttered tremblingly the words, "Oh, Pierre! what an omen, shall it be said of us as of them, 'Amor condusse noi ad una morte'?" ("Love has conducted us into one death.")

"God grant we may one day say so," replied he, pressing her to his bosom, "when we have earned it by a long life of mutual love and devotion. But now cheer up, darling, we are at home."

The canoes pushed madly to the bank. The startled holiday party sprang out; servants were there to help them. All ran across the lawn under the wildly-tossing trees, and in a few moments, before the storm could overtake them with its greatest fury, they reached the Manor House, and were safe under the protection of its strong and hospitable roof.

CHAPTER XXX.

"No Speech of Silk Will Serve Your Turn."

Angelique des Meloises was duly informed, through the sharp espionage of Lizette, as to what had become of Le Gardeur after that memorable night of conflict between love and ambition, when she rejected the offer of his hand and gave herself up to the illusions of her imagination.

She was sorry, yet flattered, at Lizette's account of his conduct at the Taverne de Menut; for, although pleased to think that Le Gardeur loved her to the point of self-destruction, she honestly pitied him, and felt, or thought she felt, that she could sacrifice anything except herself for his sake.

Angelique pondered in her own strange, fitful way over Le Gardeur. She had no thought of losing him wholly. She would continue to hold him in her silken string, and keep him under the spell of her fascinations. She still admired him—nay, loved him, she thought. She could not help doing so; and if she could not help it, where was the blame?

She would not, to be sure, sacrifice for him the brilliant hopes which danced before her imagination like fireflies in a summer night—for no man in the world would she do that! The Royal Intendant was the mark she aimed at. She was ready to go through fire and water to reach that goal of her ambition. But if she gave the Intendant her hand, it was enough; it was all she could give him, but not the smallest corner of her heart, which she acknowledged to herself belonged only to Le Gardeur de Repentigny.

While bent on accomplishing this scheme by every means in her power, and which involved necessarily the ruin of Le Gardeur, she took a sort of perverse pride in enumerating the hundred points of personal and moral superiority possessed by him over the Intendant and all others of her admirers. If she sacrificed her love to her ambition, hating herself while she did so, it was a sort of satisfaction to think that Le Gardeur's sacrifice was not less complete than her own; and she rather felt pleased with the reflection that his heart would be broken, and no other woman would ever fill that place in his affections which she had once occupied.

The days that elapsed after their final interview were days of vexation to Angelique. She was angry with herself, almost angry with Le Gardeur that he had taken her at her word, and still more angry that she did not reap the immediate reward of her treachery against her own heart. She was like a spoiled and wilful child which will neither have a thing nor let it go. She would discard her lover, and still retain his love, and felt irritated and even jealous when she heard of his depart-

ture to Tilly with his sister, who had thus, apparently, more influence to take him away from the city than Angelique had to keep him there.

But her mind was especially worked upon almost to madness by the ardent professions of love, with the careful avoidance of any proposal of marriage, on the part of the Intendant. She had received his daily visits with a determination to please and fascinate him. She had dressed herself with elaborate care, and no woman in New France equalled Angelique in the perfection of her attire. She studied his tastes in her conversation and demeanor, which were free beyond even her wont, because she saw that a manner bold and unconstrained took best with him. Angelique's free style was the most perfect piece of acting in the world. She laughed loudly at his wit, and heard without blushes his double entendres and coarse jests, not less coarse because spoken in the polished dialect of Paris. She stood it all, but with no more result than is left by a brilliant display of fireworks after it is over. She could read in the eager looks and manner of the Intendant that she had fixed his admiration and stirred his passions, but she knew by a no less sure intuition that she had not, with all her blandishments, suggested to his mind one serious thought of marriage.

In vain she reverted to the subject of matrimony, in apparent jest but secret earnest. The Intendant, quick-witted as herself, would accept the challenge, talk with her and caracole on the topic which she had caparisoned so gaily for him, and, amid compliments and pleasantries, ride away from the point, she knew not whither! Then Angelique would be angry after his departure, and swear—she could swear shockingly for a lady when she was angry!—and vow she would marry Le Gardeur after all; but her pride was stung, not her love. No man had ever defeated her when she chose to subdue him, neither should this proud Intendant! So Angelique collected her scattered forces again, and laid closer siege to Bigot than ever.

The great ball at the Palais had been the object of absorbing interest to the fashionable society of the Capital for many weeks. It came on at last, turning the heads of half the city with its splendor.

Angelique shone the acknowledged queen of the Intendant's ball. Her natural grace and beauty, set off by the exquisite taste and richness of her attire, threw into eclipse the fairest of her rivals. If there was one present who, in admiration of her own charms, claimed for herself the first place, she freely conceded to Angelique the second. But Angelique feared no rival there. Her only fear was at Beaumanoir. She was profoundly conscious of her own superiority to all present, while she relished the envy and jealousy which it created. She cared but little what the women thought of her, and boldly challenging the homage of the men, obtained it as her rightful due.

Still, under the gay smiles and lively badinage which she showered on all around as she moved through the brilliant throng, Angelique felt a bitter spirit of discontent rankling in her bosom. She was angry, and she knew why, and still more angry because upon herself lay the blame! Not that she blamed herself for having rejected Le Gardeur—she had done that deliberately, and for a price; but the price was not yet paid, and she had, sometimes, qualms of doubt whether it would ever be paid!

She who had had her own way with all men, now encountered a man who spoke and looked like one who had had his own way with all women, and who meant to have his own way with her!

She gazed often upon the face of Bigot, and the more she looked, the more insupportable it appeared to her. She tried to sound the depths of his thoughts, but her inquiry was like the dropping of a stone into the bot-

tomless pit of that deep cavern of the dark and bloody ground talked of by adventurous voyageurs from the Far West.

That Bigot admired her beyond all other women at the ball, was visible enough from the marked attention which he lavished upon her, and the courtly flatteries that flowed like honey from his lips. She also read her pre-eminence in his favor from the jealous eyes of a host of rivals who watched her every movement. But Angelique felt that the admiration of the Intendant was not of that kind which had driven so many men mad for her sake. She knew Bigot would never go mad for her, much as he was fascinated! and why? why?

Angelique, while listening to his honeyed flatteries, as he led her gaily through the ballroom, asked herself again and again why did he carefully avoid the one topic that filled her thoughts, or spoke of it only in his mocking manner, which tortured her to madness with doubt and perplexity?

As she leaned on the arm of the courtly Intendant, laughing like one possessed with the very spirit of gaiety at his sallies and jests, her mind was torn with bitter comparisons as she remembered Le Gardeur, his handsome face and his transparent admiration, so full of love, and ready for any sacrifice for her sake—and she had cast it all away for this inscrutable voluptuary, a man who had no respect for women, but who admired her person, condescended to be pleased with it, and affected to be caught by the lures she held out for him, but which she felt would be of no more avail to hold him fast than the threads which a spider throws from bush to bush on a summer morn will hold fast a bird which flies athwart them!

The gayest of the gay to all outward appearance, Angelique missed sorely the presence of Le Gardeur, and she resented his absence from the ball as a slight and a wrong to her sovereignty, which never released a lover from his allegiance.

The fair demoiselles at the ball, less resolutely ambitious than Angelique, found, by degrees, in the devotion of other cavaliers, ample compensation for only so much of the Intendant's favor as he liberally bestowed on all the sex; but that did not content Angelique; she looked with sharpest eyes of inquisition upon the bright glances which now and then shot across the room where she sat by the side of Bigot, apparently steeped in happiness, but with a serpent biting at her heart, for she felt that Bigot was really unimpressible as a stone under her most subtle manipulation.

Her thoughts ran in a round of ceaseless repetition of the question: "Why can I not subdue Francois Bigot as I have subdued every other man who exposed his weak side to my power?" and Angelique pressed her foot hard upon the floor as the answer returned, ever the same: "The heart of the Intendant is away at Beaumanoir! That pale, pensive lady" (Angelique used a more coarse and emphatic word) "stands between him and me like a spectre as she is, and obstructs the path I have sacrificed so much to enter!"

"I cannot endure the heat of the ballroom, Bigot!" said Angelique: "I will dance no more to-night! I would rather sit and catch fireflies on the terrace than chase forever, without overtaking it, the bird that has escaped from my bosom!"

The Intendant, ever attentive to her wishes, offered his arm to lead her into the pleached walks of the illuminated garden. Angelique rose, gathered up her rich train, and with an air of royal coquetry took his arm, and accompanied the Intendant on a promenade down the grand alley of roses.

"What favorite bird has escaped from your bosom, Angelique?" asked the Intendant, who had, however, a shrewd guess of the meaning of her metaphor.

"The pleasure I had in anti-pipation

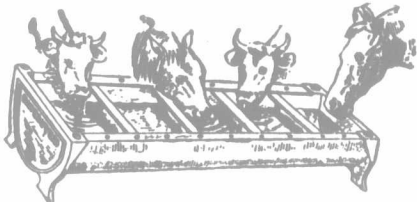
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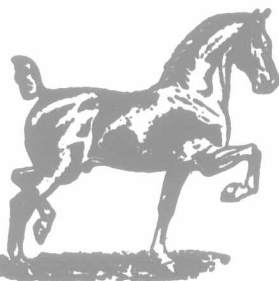
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of this ball! The bird has flown, I know not where or how. I have no pleasure here at all!" exclaimed she, petulantly, although she knew the ball had been really got up mainly for her own pleasure.

"And yet Momus himself might have been your father, and Euphrosyne your mother, Angelique," replied Bigot, "to judge by your gaiety to-night. If you have no pleasure, it is because you have given it all away to others! But I have caught the bird you lost, let me restore it to your bosom, pray!" He laid his hand lightly and caressingly upon her arm. Her bosom was beating wildly; she removed his hand, and held it firmly grasped in her own.

"Chevalier!" said she, "the pleasure of a king is in the loyalty of his subjects, the pleasure of a woman in the fidelity of her lover!" She was going to say more, but stopped. But she gave him a glance which insinuated more than all she left unsaid.

Bigot smiled to himself. "Angelique is jealous!" thought he, but he only remarked, "That is an aphorism which I believe with all my heart! If the pleasure of a woman be in the fidelity of her lover, I know no one who should be more happy than Angelique des Meloises! No lady in New France has a right to claim greater devotion from a lover, and no one receives it!"

"But I have no faith in the fidelity of my lover! and I am not happy, Chevalier! far from it!" replied she, with one of those impulsive speeches that seemed frankness itself, but in this woman were artful to a degree.

"Why so?" replied he; "pleasure will never leave you, Angelique, unless you willfully chase it away from your side! All women envy your beauty, all men struggle to obtain your smiles. For myself, I would gather all the joy and treasures of the world, and lay them at your feet, would you let me!"

"I do not hinder you, Chevalier!" she replied, with a laugh of incredulity, "but you do not do it! It is only your politeness to say that. I have told you that the pleasure of a woman is in the fidelity of her lover; tell me now, Chevalier, what is the highest pleasure of a man?"

"The beauty and condescension of his mistress—at least, I know none greater." Bigot looked at her as if his speech ought to receive acknowledgment on the spot.

"And it is your politeness to say that, also, Chevalier!" replied she, very coolly.

"I wish I could say of your condescension, Angelique, what I have said of your beauty; Francois Bigot would then feel the highest pleasure of a man." The Intendant only half knew the woman he was seeking to deceive. She got angry.

Angelique looked up with a scornful flash. "My condescension, Chevalier? to what have I not condescended on the faith of your solemn promise that the lady of Beaumanoir should not remain under your roof? She is still there, Chevalier, in spite of your promise!"

Bigot was on the point of denying the fact, but there was sharpness in Angelique's tone, and clearness of all doubt in her eyes. He saw he would gain nothing by denial.

"She knows the whole secret, I do believe!" muttered he. "Argus, with his hundred eyes, was a blind man compared to a woman's two eyes sharpened by jealousy."

"The lady of Beaumanoir accuses me of no sin that I repent of!" replied he. "True! I promised to send her away, and so I will; but she is a woman, a lady, who has claims upon me for gentle usage. If it were your case, Angelique—"

Angelique quitted his arm and stood confronting him, flaming with indignation. She did not let him finish his sentence. "If it were my case, Bigot! as if that could ever be my case, and you alive to speak of it!"

Bigot stepped backwards. He was not sure but a poinard glittered in the clenched hand of Angelique. It was but the flash of her diamond rings as she lifted it suddenly. She almost struck him.

"Do not blame me for infidelities committed before I knew you, Angelique!" said he, seizing her hand, which he held forcibly in his, in spite of her efforts to wrench it away.

"It is my nature to worship beauty at every shrine. I have ever done so until I found the concentration of all my divinities in you. I could not, if I would, be unfaithful to you, Angelique des Meloises!" Bigot was a firm believer in the classical faith that Jove laughs at lovers' perjuries.

"You mock me, Bigot!" replied she. "You are the only man who has ever dared to do so twice."

"When did I mock you twice, Angelique?" asked he, with an air of injured innocence.

"Now! and when you pledged yourself to remove the lady of Beaumanoir from your house! I admire your courage, Bigot, in playing false with me, and still hoping to win! But never speak to me more of love while that pale spectre haunts the secret chambers of the Chateau!"

"She shall be removed, Angelique, since you insist upon it," replied he, secretly irritated; "but where is the harm? I pledge my faith she shall not stand in the way of my love for you."

"Better she were dead than do so!" whispered Angelique to herself. "It is my due, Bigot!" replied she aloud, "you know what I have given up for your sake!"

"Yes! I know you have banished Le Gardeur de Repentigny when it had been better to keep him securely in the ranks of the Grand Company. Why did you refuse to marry him, Angelique?"

The question fairly choked her with anger. "Why did I refuse to marry him? Francois Bigot! Do you ask me seriously that question? Did you not tell me of your own love, and all but offer me your hand, giving me to understand—miserable sinner that you are, or as you think me to be—that you pledged your own faith to me, as first in your choice, and I have done that which I had better have been dead and buried with the heaviest pyramid of Egypt on top of me, buried without hope of resurrection, than have done?"

Bigot, accustomed as he was to woman's upbraidings, scarcely knew what to reply to this passionate outburst. He had spoken to her words of love, plenty of them, but the idea of marriage had not flashed across his mind for a moment—not a word of that had escaped his lips. He had as little guessed the height of Angelique's ambition as she the depths of his craft and wickedness, and yet there was a wonderful similarity between the characters of both—the same bold, defiant spirit, the same inordinate ambition, the same void of principle in selecting means to ends—only the one fascinated with the lures of love, the other by the charms of wit, the temptations of money, or effected his purposes by the rough application of force.

"You call me rightly a miserable sinner," said he, half smiling, as one not very miserable, although a sinner. "If love of fair women would be a sin, I am one of the greatest of sinners; and in your fair presence, Angelique, I am sinning at this moment enough to sink a shipload of saints and angels!"

"You have sunk me in my own and the world's estimation, if you mean what you say, Bigot!" replied she, unconsciously tearing in strips the fan she held in her hand. "You love all women too well ever to be capable of fixing your heart upon one!" A tear, of vexation, perhaps, stood in her angry eye as she said this, and her cheek twitched with fierce emotion.

"Come, Angelique!" said he, soothingly, "some of our guests have entered this ally. Let us

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A small boy went into a South Boston drug store, wrinkled his face, rubbed his head and rubbed his left foot up and down his right leg in an effort to remember something that had escaped him.

"Say," he began, "will you tell me the name of the place where we Americans have so many soldiers?"

"Fort Sheridan?"

"Oh, no. It's further away than that."

"The Philippines?"

"That ain't just it, but it's somewhere around there."

"Perhaps you mean Manila?"

"Manila! That's right! I knew I would get it after a while. I want a bottle of manila extract for flavorin'. They're going to have ice cream."

A love-smitten youth who was studying the approved method of proposal, asked one of his bachelor friends if he thought that a young man should propose to a girl on his knees.

"If he doesn't," replied his friend, "the girl should get off."

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walk down to the terrace. The moon is shining bright over the broad river, and I will swear to you by St. Picaut, my patron, whom I never deceive, that my love for all woman-kind has not hindered me from fixing my supreme affection upon you."

Angelique allowed him to press her hand, which he did with fervor. She almost believed his words. She could scarcely imagine another woman seriously preferred to herself, when she chose to flatter a man with a belief of her own preference for him.

They walked down a long alley, brilliantly illuminated with lamps of Bohemian glass, which shone like the diamonds, rubies and emeralds which grew upon the trees in the garden of Aladdin.

At every angle of the geometrically cut paths of hard-beaten sea-shells, white as snow, stood the statue of a faun, a nymph, or dryad, in Parian marble, holding a torch, which illuminated a great vase running over with fresh, blooming flowers, presenting a vista of royal magnificence, which bore testimony to the wealth and splendid tastes of the Intendant.

The garden walks were not deserted; their beauty drew out many a couple who sauntered merrily, or lovingly, down the pleached avenues, which looked like the corridors of a gorgeously-decorated palace.

Bigot and Angelique moved among the guests, receiving, as they passed, obsequious salutations, which to Angelique seemed a foretaste of royalty. She had seen the gardens of the palace many times before, but never illuminated as now. The sight of them so grandly decorated filled her with admiration of their owner, and she resolved that, cost what it would, the homage paid to her tonight, as the partner of the Intendant, should become hers by right on his hearthstone as the first lady in New France.

Angelique threw back her veil that all might see her, that the women might envy and the men admire her, as she leaned confidently on the arm of Bigot, looking up in his face with that wonderful smile of hers which had brought so many men to ruin at her feet, and talking with such enchantment as no woman could talk but Angelique des Meloises.

Well understanding that her only road to success was to completely fascinate the Intendant, she bent herself to the task with such power of witchery and such simulation of real passion, that Bigot, wary and experienced gladiator as he was in the arena of love, was more than once brought to the brink of a proposal for her hand.

She watched every movement of his features, at these critical moments when he seemed just falling into the snares so artfully set for him. When she caught his eyes glowing with passionate admiration, she shyly affected to withdraw hers from his gaze, turning on him at times flashes of her dark eyes which electrified every nerve of his sensuous nature. She felt the pressure of his hand, the changed and softened inflection of his voice, she knew the words of her fate were trembling on his lips, and yet they did not come! The shadow of that pale hand at Beaumanoir, weak and delicate as it was, seemed to lay itself upon his lips when about to speak to her, and snatch away the words which Angelique, trembling with anticipation, was ready to barter away body and soul to hear spoken.

In a shady passage through a thick greenery, where the lights were dimmer, and no one was near, she allowed his arm for a moment to encircle her yielding form, and she knew by his quick breath that the words were moulded in his thoughts and were on the point to rush forth in a torrent of speech. Still they came not, and Bigot again, to her unutterable disgust, shied off like a full-blooded horse which starts suddenly away from some object by the wayside, and throws his rider headlong on the ground. So again were

dashed the ardent expectations of Angelique.

She listened to the gallant and gay speeches of Bigot, which seemed to flutter like birds around her, but never lit on the ground where she had spread her net, like a crafty fowler as she was, until she went almost mad with suppressed anger and passionate excitement. But she kept on replying with badinage light as his own, and with laughter so soft and silvery that it seemed a gentle dew from heaven, instead of the drift and flying foam of the storm that was raging in her bosom.

She read and re-read glimpses of his hidden thoughts that went and came like faces in a dream, and she saw in her imagination the dark, pleading eyes and pale face of the lady of Beaumanoir. It came now like a revelation, confirming a thousand suspicions that Bigot loved that pale, sad face too well ever to marry Angelique des Meloises while its possessor lived at Beaumanoir—or while she lived at all!

(To be continued.)

BOOK REVIEW.

"Agricultural Bacteriology" is the title of a book written by H. W. Conn, Ph. D., Professor of Biology in Wesleyan University, Connecticut, and published by Blakiston's Sons, Philadelphia.

"Agricultural Bacteriology" is a highly-important subject, and no farmer can be considered to have mastered the scientific end of his calling unless he is more or less conversant with this subject.

In this volume (the second edition, revised and enlarged, has recently been issued), not only bacteria are treated, but also the more minute fungi, which include many of the yeasts and other ferments. The writer has wisely taken a wide scope, and does not confine himself strictly to his title, when it is necessary that he should view the field broadly in order to make his explanations lucid.

The volume begins by reviewing the general characters of microscopic germs, laying particular stress upon the fallacy of the popular idea, that most germs are connected with diseases, human or otherwise. It is true that those which have received most attention in the past are of this character, but that has obtained because of the vital necessity for the study of these peculiar germs.

Many of the bacteria are useful, and this class has received most attention in the present volume. The writer has, unfortunately, endeavored to perpetuate the use of the word bacterium as belonging to one class of bacilli, or rod-like bacteria. The fact that this word is the singular of bacteria, should alone be sufficient to bar it from such use.

Great prominence is given to the importance of fermentation in farm life, and the methods by which plants transform inorganic material into vegetable tissue, is thoroughly detailed.

The manure pile also receives considerable attention. Disease-producing germs are also given prominence, particular reference being made to the bacillus of tuberculosis, which, perhaps, to the farmers of Canada, is the most important disease germ.

The volume is fairly well indexed, but the lack of a Glossary is a distinct detriment, considering that the work is intended to be of an instructive character in the hands of its readers, many of whom will not be familiar with bacteriological terms.

On the whole, however, the work will be a useful aid to the student of farming. The price of the book is \$2. net.


W. E. S.

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Farmers and Cattlemen, Read This!

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

Load your cattle carefully, and bill them to me. I provide the necessary feed, insurance, etc., pay freight and all other expenses from shipping point, and give liberal cash advances on all consignments. Cattle are loaded on steamer under my personal supervision, and placed in charge of capable attendants for the ocean voyage. I represent the most reliable salesmen at all the different British markets. **BUSINESS ESTABLISHED 1890. REFERENCES: THE MOLSONS BANK, MONTREAL.**

Clover Dell Shorthorns

Having disposed of my recent offering of 26 bulls, also several females, I have still young of both sexes for sale. Dual Purpose. A specialty. **L. A. WAKELY, BOLTON, ONT.** Bolton station on C. P. R. within ½ mile of farm.

BUSINESS HOLSTEINS!

Over 20 head to select from. Milk yield from 40 to 85 lbs. a day, and from 35 to 47 lbs. a day for 2-yr.-olds. There are 10 2-yr.-old heifers, 8 1-yr.-olds, and a number of better calves. Bulls from 1-yr.-old down. Priced right. Truthfully described. **W. Higginson, Inkerman, Ont.**

Holsteins

FOR SALE: COWS AND HEIFERS All ages. Also bull and heifer calves, including daughter and granddaughters of Pieterje Hengerveld Count De Kol, whose TWO famous daughters made over 32 lbs. butter each in 7 days, and sire of the "world's champion milking cow," De Kol Creamelle, which gave 119 lbs. in one day, over 10,000 lbs. in 100 days. Also for sale daughters of De Kol's 2nd Mutual Paul, sire of Maid Mutual De Kol, which gave over 31 lbs. butter in 7 days, also granddaughters of Hengerveld De Kol. Other leading breeds represented. Putnam station, near Ingersoll.

H. E. GEORGE, CRAMPTON, ONTARIO.

HOMEWOOD HOLSTEINS

For Sale: Only thrifty bull calves from 4% R. O. M. cows; some will make great herd headers and show animals. Write for prices and description. Station on the place.

M. L. & M. H. HALEY, Springford, Ont.

MAPLE GLEN Holsteins

For sale: Only 1 bull, 11 months old, left; dam is sister to a 26-lb. tested cow. Any female in herd for sale, 7 with records 20¾ to 26¾ lb. official tests. An 8-yr.-old G. D. of Paul Beets De Kol, in calf to Oakland Sir Maida—her record 21.88 as a 5-yr.-old. Price \$400, or will dispose of herd en bloc, a great foundation privilege. **G. A. Gilroy, Glen Buell, Ont.** Long-distance phone connects with Brockville.

Lakeview Holsteins

Herd headed by **Count Hengerveld Fayne De Kol,** the **ONLY BULL** in the world whose sire has 5 daughters averaging over 30 lbs. of butter in 7 days, and whose dam (26.30 lbs. in 7 days) has a daughter with a record of over 35½ lbs. of butter in 7 days (world's record). Bull calves and cows bred to him for sale. **LAKEVIEW FARM, BRONTE, ONT. W. D. Breckon, Mgr.**

FAIRVIEW HERD HOLSTEINS

The greatest A. R. O. herd of in northern New York. Headed by Pontiac Korndyke, the greatest sire of the breed, having five daughters whose seven-day records average 29¼ pounds each, and over 4 3/4 fat. Assisted by Rag Apple Korndyke, a son of Pontiac Korndyke, out of Pontiac Rag Apple, 31.62 pounds butter in 7 days, and 126.56 pounds in 30 days, at 4 years old. Cows and heifers in calf to the above two bulls for sale, also young bulls sired by them out of large-record cows. Write, or come and inspect our herd. **E. H. DOLLAR, Heuvelton, St. Law. Co., N. Y., near Prescott, Ont.**

WOODBINE STOCK FARM

Offers a few fine young Holstein bulls and bull calves, sired by Sir Mechthilde Posch. Sire's dam holds world's largest two-day public test record, dam Ianthe Jewel Mechthilde, 27.65 lbs. butter in 7 days; average test, 4.46 per cent. fat; out of dams with superior breeding and quality.

Shipping stations—Paris, G. T. R.; Ayr, C. P. R.

A. KENNEDY, Ayr, Ont.

Please Mention Farmer's Advocate.

GOSSIP.

Volume 6, of the South Devon Sheep Flockbook, has been received at this office, thanks to the courtesy of the Secretary and editor, W. W. Chapman, Mowbray House, Norfolk street, Strand, London, W. C. It is a well-printed volume of 176 pages, containing records of 225 flocks, and of rams numbering from 4481 to 5308.

QUESTIONS AND ANSWERS.

Half a dozen questions received in the mails last week went into the waste-paper basket owing to neglect of the writers to state their name and post-office address, or to the fact that they were not subscribers to the paper. As has been repeatedly stated in these columns, these are the only terms on which questions are answered free of charge.

Volume 6, of the American Leicester Sheep Record, recently issued, has been received at this office. It is a beautifully and substantially bound and clearly printed volume of 195 pages, containing pedigree records of animals numbering from 9386 to 12400, besides the constitution and rules of the Association, a report of the last annual meeting, a list of transfers, and a very complete index, all of which is very creditable to the industrious and efficient Secretary, A. J. Temple, Cameron, Ill.

CANADIAN NATIONAL EXHIBITION.

Canada's great annual Agricultural and Industrial Exposition at Toronto opens this year August 28th, and closes September 13th. All indications this year point to a greater show than has been. The exhibition grounds have been enlarged, new buildings erected, the prize list extended and made more liberal, while the arrangements for entertainment before the grand-stand are said to be of a superior class. The usual reduced railway rates will be available, and everything appears favorable for country people to enjoy a pleasant outing, which may, at the same time, be an education, as provision is made for instructive demonstrations in practical dairying, and in many processes of manufacture. Judging of the dairy breeds of cattle will commence on Friday, Sept. 3rd, and the beef breeds, horses, sheep and hogs, on Monday, Sept. 6th.

QUESTIONS AND ANSWERS. Veterinary.

SURFEIT.

Mare was all right in the morning. In half an hour her whole body was covered with lumps of different sizes. These disappeared in less than 24 hours, but she is again affected.

Ans.—This is called surfeit, or nettle rash. Give her a purgative of 8 drams aloes and 2 drams ginger, and follow up with 1½ ozs. of Fowler's Solution of Arsenic twice daily for a week.

PARTIAL DISLOCATION OF THE PATELLA—INDIGESTION.

1. I have a heavy colt two months old. When it moves, a cracking noise can be heard in its stiles, and there is a soft lump below each stifle joint.

2. Three-weeks-old colt took sick and bloated. I gave it a dose of soda and ginger, and gave injections. It died in about four hours. A post-mortem revealed nothing but a handful of grass in the stomach, the intestines full of weeds. Did you ever hear of giving coal oil to a colt when bloated?

Ans.—1. The patella (stifle bone) becomes partially dislocated and the noise mentioned is made when the bone resumes its proper position. It is not probable that a perfect cure can be effected, but it will probably make a useful animal. Keep it as quiet as possible, and blister the front and inside of the joints once monthly for several months. Blister with 1; drams each of cantharides and biniodide of mercury, mixed with 2 ozs. vaseline.

2. The colt died of acute indigestion. It is probable its life could have been saved by a veterinarian, who would have given a hypodermic injection of 4 grain essence. The best brand that could have been given is 4 ozs. of turpentine in 1 oz. of raw, unseeded oil. Yes, I have heard of coal oil being given in such cases, but never know of good results, and I cannot recommend it.

Miscellaneous.

FILTERING ROOF WATER.

1. What plan would you recommend in filtering water from a school-house roof, to a well for drinking purposes?

2. What would be the cost per yard for material?

3. Would you advise bricking the well and cementing it inside, the ground being clay.

Elgin Co., Ont.
 Ans.—1 and 2. It would be well to collect water in a tank before running it into a filter, as a filter acts slowly, and much water would be wasted if it received the water direct from the roof. It is well, also, to remember that no mechanical filter will remove impurities that have passed into solution, only solids can be thus removed.

A filter of the sort desired should consist of a tank about two feet square and seven or eight feet in depth, so placed that water from the receiving tank will flow gently into it. The material of the filter should consist, from the bottom upward, of, first a pipe having perforations for receiving the water; second, one foot of coarse gravel; third, one foot of fine gravel; then from one to two feet of medium sand. Care should be taken to have the material of these layers of uniform grade. Each grade should be sifted, and the finer as well as the coarser particles removed. Any want of uniformity in the size of the particles composing each layer will interfere seriously with their permeability. In order to furnish a sufficient head to force the water through the filter, there should be a depth of about three feet of water above the filter.

The top layer should be occasionally examined and renewed when required by scraping off until clean sand is reached, and replacing to the required depth with fresh sand.

3. It would be better.

SOW THISTLE.

What is the name of the enclosed plants? Is it a dangerous weed? INWOOD.

Ans.—One of the specimens sent was a plant of annual sow thistle, not a serious weed. The other, not being in good condition, and having no root attached, could not be positively identified, but it may be perennial sow thistle, a most dangerous weed. Examine the roots, and if there are creeping rootstocks, such as those of Canada thistle, it is the noxious species of sow thistle.

ALFALFA AND OTHER SEEDS.

1. I sowed alfalfa last spring with an oat crop and it is about eight inches high. Will it do it harm to cut the top off alfalfa when we are cutting the oats?

2. Is alfalfa as hard on land as timothy?

3. Is it profitable to leave it seeded a number of years?

4. Will it do it harm to let the cattle pasture on it this fall?

5. How would equal parts of red clover, timothy and alfalfa do for a pasture field?

6. Isn't alfalfa of no use on low land?

7. Which kinds of seeds are the best to sow on a clay loam, which is very rich and clean, after a potato crop, and I intend pasturing after one crop of oats?

Ans.—1. Not at all.

2. Alfalfa leaves the land richer in nitrogen than before.

3. Yes. If land is clear of weeds and blue grass, it will give profitable crops for many years.

4. It had better not be pastured the first year. If pastured at all, it should be but lightly.

5 and 7. It would be better to add 3 lbs. orchard grass, 3 lbs. meadow fescue, 3 lbs. Kentucky blue grass, and 2 lbs. Alsike per acre, to the mixture mentioned. Also reduce the amount of timothy seed by 1 lb. and add 1 lb. to alfalfa.

6. Alfalfa requires a dry subsoil, so that its roots can go down deeply. It will not thrive where subsoil is wet.

TRADE TOPIC.

The T. Eaton Co., Toronto, Ont., in their special advertisement in this issue, call attention to their August furniture catalogue, in which are offers of genuine bargains in goods that will bear inspection. See the announcement and send for the free catalogue.

GOSSIP.

J. F. Mitchell, Burlington, Ont., in sending a change of his advertisement of Shorthorns, writes: "The four imported bulls we have for sale were the youngest we imported and are good colors, good individuals, belong to popular families, and should make high-class sires. One of our herd bulls that we are offering is a red two-year-old, a very smooth, stylish bull, and we have a number of calves by him that are good enough to prove him to be a valuable sire. We will give very close figures on any of these bulls, as we are fitting a young herd for Toronto Exhibition and are crowded for box-stall room."

Robert Ness, Howick, Que., shipped from Glasgow, on July 10th, eleven Clydesdale stallions and fillies, namely: Four two-year-old colts and two yearlings, one three-year-old mare, two two-year-old fillies, and two yearling fillies. One of his two-year-old stallions was by the champion sire, Baron's Pride, and another was the third-prize two-year-old at the Royal, got by the unbeaten champion horse, Everlasting. Mr. Ness has in this importation, stock by four Highland Society champion horses, namely: Baron's Pride and his three sons, Benedict, Everlasting and Scottish Crest, while a fourth, Pride of Blarcon, though never a champion, was twice first at the same National Show.

The 'Holstein-Friesian World' has compiled, and published in its issue of July 8, 1909, a list of all the cows of that breed which have produced over 20 lbs. of butter-fat in seven consecutive days. The list is a very formidable one, containing 292 names. Grace Fayne 2nd's Homestead heads the list with a record of 28.440 lbs., but is closely followed by Colantha 4th's Johanna, whose credit is 28.176 lbs. There are 16 cows above the 25-lb. mark; 18 between 23 and 24 lbs.; 20 that fell between 22 and 23 lbs.; 44 in the 21-lb. list, and 67 that produced over 20 lbs., but did not reach 21 lbs. This is indeed a remarkable showing, and does great credit to the breed and incidentally to the keen wisdom of the association that inaugurated the system of authenticated records.

The United States Department of Agriculture is going to a great deal of trouble and expense to overcome the Gipsy moth and Brown-tail moth, those enemies of the forest and fruit trees. Parasites and other enemies of these moths have been collected in Europe, and have been imported in great quantities. These will be liberated in woodlands known to be infested by the Gipsy and Brown-tail moths, and it is hoped that they will thrive in this country, and prey upon the moths, lessening greatly the plague. More rigid inspection of trees and shrubs coming into the country is asked for, and attempts have been made to secure inspection by European Governments of nursery stock exported. The need of more rigid inspection on both sides of the water is evident from the fact that last winter thousands of apple and pear seedlings were brought in from France which carried the winter nests of the Brown-tail moth.

Johnny loved his papa, there was no doubt about that, says Judge, and one morning, after he had listened to a long disquisition from the author of his being, addressed to his elders, on the general uselessness of the vermiform appendix, ending up with the broad statement that he hoped he'd see the day when every appendix in creation was cut out, the little boy resolved upon an agreeable surprise for his daddy. He worked in secret for several days, and then sprang it.

"See what I have done for you, daddy!" he said, leading the wondering father into the library, and showing him a neat pile of many pages which he had accumulated. "I've cut the appendix out of every book in this library."

It was then that words failed, and Johnny's father's vocabulary made a general assignment for the benefit of its possessor.

Robert Hamilton, of the firm of Hamilton & Hawthorne, Simcoe, Ont., sailed on July 28th, from New York, for France, for their fall importation of Percheron stallions. He expects to be gone about two months, and will bring about 25 horses and a few mares.

A copy of Vol. 72, of the American Shorthorn Herdbook, which has just come from the press, has been received at this office, thanks to the courtesy of the Secretary, John W. Groves, Union Stockyards, Chicago. This volume contains the pedigrees of 8,000 bulls, numbering from 291000 to 299000; and of 12,000 cows, numbering from 23001 to 35000. The price of this volume is \$3 at the office, or \$3.30 prepaid. Vol. 73, containing 20,000 pedigrees, is in the hands of the printer, but will not be ready for distribution for some time. Vol. 74, containing 20,000 pedigrees, has been closed, and pedigrees are being filed for Vol. 75, all of which indicates a wonderful increase and wide dissemination of this popular dual-purpose breed.

SWALLOWS FLY SWIFTLY.

A pigeon fancier in Antwerp, Belgium, recently made a unique experiment by means of which he tested the celerity of flight and the power of orientation possessed by a swallow. Several pairs of these birds had nests under the eaves of his house, and without great difficulty he caught one of the swallows and marked it with a splash of red paint for identification. Then he shipped the bird by rail, together with a consignment of homing pigeons that were being trained, to the town of Compiègne in Northern France, a distance of one hundred and forty-seven miles.

The morning after their arrival, pigeons and swallow were liberated simultaneously at 7.15 o'clock. The homers, following their natural instinct, circled round and round many times before getting their bearings, but the swallow darted away toward the north immediately after its cage was opened. Sixty-seven minutes later, the watcher at Antwerp saw the swallow enter its nest, while the first pigeons did not arrive for four hours and seven minutes. The former flew at a rate of nearly one hundred and thirty-two miles an hour, but the speed of the pigeons averaged only slightly more than thirty-five and one-half miles an hour. This later time is considerably slower than that of which a homer is capable under ordinary conditions, but, granting this fact, the superiority of the swallow is only too evident.

In a paper on the meat supply of the United Kingdom, read at a meeting of the Royal Statistical Society, R. H. Hooker stated that the amount of meat produced in the United Kingdom was now about 25,000,000 cwt. annually, consisting of about 14,000,000 cwt. of beef or veal; 5,500,000 cwt. of mutton or lamb, and about the same quantity of pig meat, although the latter was a very variable quantity. He considered that the home production had somewhat increased during the past fifteen years, although not proportionately to the population. Imports had increased very rapidly in the past thirty years, and they now imported 21,000,000 cwt. to 22,000,000 cwt. annually—viz., about 9,000,000 cwt. of beef, nearly 4,500,000 cwt. of mutton, and some 7,500,000 cwt. of pig meat. The total annual consumption was thus over 16,000,000 cwts., or about 120 lbs. per head of the population; of which the produce of the United Kingdom amounted in 1907-8, to 54 per cent., it having been well over 60 per cent. 15 years ago. Beef, he said, came mainly from North and South America, but the United States were beginning to show signs of exhaustion, and the Argentine Republic was rapidly increasing its supplies. Mutton came almost entirely from the Southern Hemisphere, and pig meat from North America (a steadily-diminishing quantity) and Denmark. In future, supplies from North America should steadily dwindle, and he looked to the Southern Hemisphere for an extraneous meat supply—mainly to the Argentine for the beef, and to Australasia for mutton, the latter probably exhibiting great fluctuations. When the South American supply had ceased to grow, there seemed every probability that the next generation would have to pay dear for its meat.

HERE AGAIN! With high-class **HOLSTEINS** for sale, of all ages, except bulls for service. **CHEESE is HIGH.** Why not invest **AT ONCE?** We sell at **BARGAIN** prices. Write or call, we're always home. Railway connections good.

Glenwood Stock Farm—Holsteins and Yorkshires. Holsteins all sold out. Have a few young Yorkshire sows, about 2 months old, for sale cheap. True to type and first-class. Bred from imported stock. **Thos. B. Carlaw & Son, Warkworth P.O., Ont.** Campbellford Station.

Holsteins at Ridgedale Farm—Eight bull calves on hand for sale, up to eight months old, which I offer at low prices to quick buyers. Write for description and prices, or come and see them. R. W. WALKER, Utica P.O., Ont. Shipping stations: Myrtle, C. P. R., and Port Perry, G. T. R. Ontario Co.

Imperial Holsteins!

For sale: Bull calves sired by Tidy Abbekirk Mercedes Posch, whose seven nearest dams have records within a fraction of 27 pounds, out of show cows with high official records. A most desirable lot of coming herd-heads. **W. H. SIMMONS, New Durham P. O., Ont., Oxford County.**

SPRINGBROOK AYRSHIRES are large producers of milk, testing high in butter-fat. Young stock for sale. Orders booked for calves of 1909, male and female. Prices right. Write or call on **W. F. STEPHEN, Box 163, Huntingdon, Que.**



Stoneycroft Ayrshires

Choice young bulls and heifers of the very best breeding, combining show and dairy quality. **Large Improved Yorkshire Pigs** from imported sire and dams, now ready to ship. **Stoneycroft Stock Farm, Ste. Anne de Bellevue, Que.**



Just Landed with 50 Head CHOICE AYRSHIRES

Including 12 bulls fit for service, a few August calving cows and two-year-old heifers; cows with records up to 70 lbs. per day. I have a choice lot of two-year-olds, yearlings and heifer calves. Anything in the lot for sale. Correspondence solicited. Phone, etc.

R. R. NESS, HOWICK, QUE.

AYRSHIRES AND YORKSHIRES!

Kindly send in your orders at once for imported stock. We can cable orders and have them shipped in May. Calves from imp. dams or from home-bred Record of Merit dams. Females any age. A few young pigs.

ALEX. HUME & CO., MENIE, ONTARIO. HOARD'S STATION, G. T. R. Phone in residence.



Ayrshires from a Prizewinning Herd— Have some nice bull and heifer calves for sale at reasonable prices. For particulars, etc., write to **WM. STEWART & SON, Menie P.O., Ont.** Campbellford Stn.

Ayrshires

Very fashionable. **N. DYMENT, CLAPPISON'S CORNERS, ONTARIO.**

Two young bulls, 12 months and 15 months old, of true dairy type.

Dr. McLaughlin's Electric Belt Did It

Mr. Anthony Stockley, Bethesda, Ont. This is His Experience in His Own Words:

Dr. McLaughlin—Dear Sir,—Regarding your Belt, I can say that I feel brighter and stronger in every way than I ever was before, and I consider myself to-day a better man than I ever expected to be. I thank you and your Belt for this happy result.

MR. DAVID CRAWFORD, Oso Station, Ont., says: "I am pleased with your treatment. I feel like a new man. I have gained over twenty pounds. I would not be without it for any money."

MR. H. MCGILLIVRAY, Box 47, Smith's Falls, Ont., says: "I have worn your Belt for five weeks, and write to let you know the good it has done me. It has restored me to health."

Hundreds of men are writing me letters like this, men who have been cured right in your own neighborhood. Let me furnish you their names, so that you can talk to them personally.

You Run No Risk in Using my Belt. I Take All Chances. Do you doubt it? If so, any man or woman who will give me reasonable security can have my Belt, with all the necessary attachments suitable for their case, and they can

PAY WHEN CURED

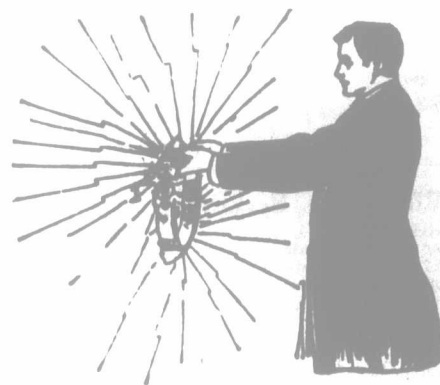
I will not permit to make a Hercules of a man who was never intended by Nature to be strong and sturdy. Even that man I can make better than he is; but the man who has been strong and has lost his strength, I can make as good as he ever was.

A man who is nervous, whose brain and body are weak, who sleeps badly, awakes more tired than when he went to bed, who is easily discouraged, inclined to brood over imaginary trouble, who has lost ambition and energy to tackle hard problems, lacks the animal electricity which the Dr. McLaughlin Electric Belt supplies.

The whole force of vitality in your body is dependent upon your animal electricity. When you lose that in any manner, my Belt will replace it, and I will cure you.

Business transacted by mail, or at offices only. No agents. **FREE BOOK**—Call and test my Belt free, or, if you can't do that, send for my book about it, also free. Call to-day. Send this ad.

DR. M. S. McLAUGHLIN, 112 Yonge St., Toronto, Can. Office Hours—9 a. m. to 6 p. m. Wednesday and Saturday until 8.30 p. m.



Brampton Jerseys

Canada's premier herd. Dairy quality. Bulls all ages for sale, from best dairy and show cows in Canada, and by best sires. Our herd is 175 strong.

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

ARE YOU IN WANT OF A CHOICE BULL TO HEAD YOUR HERD?

We are offering choice bull calves sired by Fountain's Boyle, who won first prize at Toronto, London and Ottawa, who also headed first-prize herd at Toronto and Ottawa. Also offering some choice heifers.

D. DUNCAN, DON, ONT.
DUNCAN STATION, C. N. O.

SOUTH DOWNS AND COLLIES.

Orders now solicited for especially-fitted sheep. Your choice of early lambs from imported and prizewinning Canadian-bred ewes, and by the sire of the Grand Champion wether at Chicago, 1907. Twenty shearings, the choice of last year's lamb crop, also for sale.

Long-distance Telephone. **ROBT. McEWEN, Byron, Ont.** Ry. Stn., London, Ont

WOOL

HIGH PRICES. WRITE US.

E. T. CARTER & CO.,
84 FRONT ST. E., TORONTO, CANADA

Farnham Oxford Downs

The Champion Flock for Years.

Our present offering is 110 yearling rams; 20 of these fit for the show-ring, and are grand flock-heads. Also 50 yearling ewes, and a number of good ram and ewe lambs. They are all registered and by imported sires or g. sires imported, and a number from imported dams. Our prices are reasonable.

HENRY ARKELL & SON, ARKELL, ONTARIO.
Arkell, C. P. R.; Guelph, G. T. R., and Telegraph.

Fairview Shropshires

We now offer Excellent ewes, choice rams, and the best lots of lambs ever offered. All sired by our famous Chicago and St. Louis Grand champion rams, His Best and B. Sirdar.

J. & D. J. Campbell, Fairview Farm, Woodville, Ont.

CLAYFIELD Buy now of the Champion Cattle Stock World Flock of America, 1906. Flock headers, ranch rams, ewes of different ages. All of first-class quality, and prices reasonable. Write, or call on **J. C. ROSS, Box 61, Jarvis, Ont.**



Monkland Yorkshires

We are offering 30 sows from 1 1/2 years to 3 years old that have had litters. All large and excellent sows—proved themselves good mothers. Bred again to farrow in July and August. Also 50 young sows to farrow in August. **Jas. Wilson & Sons, Fergus, Ont.**

Willowdale Berkshires!

Won the leading honors at Toronto last fall. For sale are both sexes and all ages, from imp. stock on both sides. Show things a specialty. Everything guaranteed as represented. **J. J. WILSON, MILTON, ONT., P. O. AND STATION. C. P. R. AND G. T. R.**

OHIO IMPROVED CHESTER WHITES.—Largest strains. Oldest-established registered herd in Canada. Young sows in farrow. Choice pigs 4 weeks to 6 months old. Pairs furnished not akin. Express charges prepaid. Pedigrees and safe delivery guaranteed. **F. D. GEORGE Putnam, Ont.**

NEWCASTLE TAMWORTHS, SHORTHORNS AND CLYDESDALES. Present offering: 3 Shorthorn cows with heifer calf at foot, 3, 4 and 5 months old respectively, and bred again; a choice lot of Tamworth boars and sows from 6 weeks to 5 months old, also a few really good sows bred during April and May. **A. A. COLWILL, NEWCASTLE, ONT.**

Pine Grove Yorkshires

classes. Our Yorkshires are noted for superior excellence.

J. Featherstone & Son, Streetsville, Ont.

MAPLE GROVE YORKSHIRES.

We now offer between 75 and 100 March pigs, sired by our Toronto champion boar, M. G. Champion—20102—, and M. G. Chester—24690—, a boar of great individuality. Pairs not related. Also choice sows for fall farrow. In short, pigs of all ages. Satisfaction guaranteed. Prices very reasonable. **H. S. McDIARMID, Fingal, Ont.** Shedden Station.

Hilton Stock Farm

Present offering: 6 yearling heifers and several younger ones. All very choice. Of Tamworths, pigs of all ages and both sexes, pairs not akin. **R. O. MORROW & SON, HILTON, ONT.** Brighton Tel. and Stn.

FITS CURED

For proof that fits can be cured, write to **Mr. Wm. Stinson, 134 Tyndall Ave., Toronto, Ontario.**

For pamphlet giving full particulars of simple home treatment, 20 years' success. Over 1,000 testimonials in one year. Sole proprietors: **Trench's Remedies, Limited, Dublin.**

Hampshire Down Sheep.

SPLENDID MUTTON, GOOD WOOL, GREAT WEIGHT.

Unrivalled in rapid and WONDERFULLY EARLY MATURITY, hardness of constitution, adapted to all climates, and in quality of MUTTON AND LARGE PROPORTION OF LEAN MEAT.

Champion against ALL breeds at the great Smithfield Show, London, 1908.

Full information of **Secretary, Hampshire Down Sheep Breeders' Association, SALISBURY, ENGLAND.**

CATTLE and SHEEP LABELS

F. G. James, Bowmanville, Ont.

Oxford Down Sheep, Shorthorn Cattle, Hogs.

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

SUNNYMOUNT BERKSHIRES

Highest standard of type and quality. For sale: Sows of all ages, and 4 yearling boars. A grand, good lot. Also younger ones. Pairs not akin. **JOHN McLEOD, C.P.R. & G.T.R. Milton P.O., Ont.**

DUROC-JERSEY SWINE

Imported and home-bred. Sows ready to breed. Boars fit for service, and younger ones either sex. Also Embden geese. **MAC CAMPBELL & SONS, HARWICH, ONT.**

Morrison Tamworths, Shorthorns and Clydesdales. Tamworths from Toronto winners. Either sex. Any age. Sows bred and ready to breed. Pairs not akin. **CHAS. CURRIE, Morrison, Ont.** Schaw Sta., C. P. R.

PINE GROVE BERKSHIRES.

Sows bred and ready to breed. Nice things, three and four months old.

W. V. BROWNIDGE, Milton, C. P. R., Ashgrove, Ont. Georgetown, G. T. R.

SIX (6) CHOICE BOARS

Ready for service, at \$25 apiece for quick sale. A few pigs ready to wean. Several good young sows to spare, all sired by imported Knowle King David.

A. C. Hallman, Breslau, Ont.

When Writing Please Mention this Paper.

QUESTIONS AND ANSWERS. Miscellaneous.

FERTILIZER FOR FALL WHEAT.

What is the best fertilizer for fall wheat when the soil is light? When is the best time to apply it? **W. T.**

Ans.—This question is answered by Prof. Harcourt in an article in this issue.

SILVER WEED.

A subscriber sent sample of weed, asking name, etc., which was sent for identification to Prof. McCready, O. A. C., Guelph.

Ans.—The weed enclosed in a letter by a "Young Farmer of Manitoba," proves to be the Silver Weed, or Wild-geese Tansy. This is a perennial weed, spreading by slender runners. It is not often troublesome, but occasionally crowds out the grass in dry, permanent pastures. As there is only a small patch of it in the field mentioned, we should advise that it be thoroughly spaded over, and the plants and creeping roots raked up and burned. We think this weed will give no further trouble if this is done.

O. A. C., J. E. H. SWEET CLOVER—WILD CHICORY.

On examination of the weeds sent for identification by R. E. F., we find that the plant with the small white flowers and the sweet scent is the White Sweet Clover (*Melilotus alba*). It is a biennial weed which is seldom troublesome, except on roadsides and in waste fields and permanent pastures. It is not a difficult weed to eradicate. If it is kept cut close, and not allowed to go to seed for two years, it will entirely disappear, or if the land is broken up and a crop put on which allows of frequent cultivation, this weed is soon eradicated.

The plant with the blue flowers and the long, deep taproot, is the wild Chicory, or Succory. This is a weed which is chiefly found on roadsides, but sometimes spreads into cultivated fields and becomes quite a serious pest, as the roots are very long and tough. The best way to deal with this pest is to plow the land rather deep in the fall, then run over it several times with a broad-sheared cultivator, with the idea of cutting and breaking up the roots. The following spring, repeat the cultivation until it is time to put in a hoed crop. Such treatment, if thoroughly applied, will soon rid a field of this pest.

O. A. C., Guelph, I. E. H.

ENSILAGE FOR COWS.

I receive your valuable paper in good time, and I have got now to watch for it each week end. I should be very sorry to miss it, for I find I can get all the best information on Canadian farming that anyone wants for first-class farming, so I shall have a good insight into Canadian farming by the time I get out next spring. I shall be pleased if you will get my questions answered for me, through your paper.

1. Can any dairy farmers who are readers of your valuable paper tell me from experience whether roots can be done without on a dairy farm for winter feeding, if corn silage and clover hay are fed to milk cows in the winter time?

2. About how much ensilage would a cow require for daily rations?

3. Would cows milk as well on silage and clover, without roots?

4. What would be the best way to build a place inside of barn for storing roots, to keep them from freezing, and about what size for storing 80 tons, and what would such a place cost to build?

Essex Co., England, H. H. B.

Ans.—1 and 3. Very many dairy farmers grow no roots, depending for succulent food in winter on silage alone. Better results are obtained, however, if at least a small quantity of roots are fed in addition.

2. About forty pounds.

4. If barn has basement walls, and stock are kept there, roots can be kept inside with but a slight retaining wooden wall, costing little, though the outside wall would need to be protected by straw or manure. If a cellar were built under barn, it would need to have a capacity of about 1,000 cubic feet, say 20 ft. x 25 ft. x 6 feet deep, and would cost about \$150.

HEAVES.

I have a handsome driving mare, twelve years old, which I am afraid is taking the heaves. She had a cough in the spring, and I have never been able to completely cure her of it, but it is only once in a while she gives a cough, mostly after drinking, and never when driving, and some days she never coughs even once. **W. B.**

Ans.—An established case of heaves cannot be cured, but the symptoms may be checked and rendered scarcely noticeable, by dampening all dry food with lime water, first shaking the dust from hay, watering before feeding, allowing only an ordinary pail full at a time. Avoid working or driving hard immediately after a meal, and be careful to not allow her to overload the stomach at any time.

GOSSIP.

THE LINCOLN RAM SALE.

The first of the two Lincoln ram sales, held by the Lincoln Long-wooled Sheep Breeders' Association, took place on Friday, July 9th, last, when it is satisfactory to observe that every ram offered by eight breeders at the sale was sold, realizing an average of £21 18s. 3d. The top price of the sale was realized by T. Casswell, who offered the fourth-prize ram at the Royal Show, and received for it the sum of 200 guineas, Messrs. Wright being the purchasers. Mr. Casswell's average was £41 5s.

PLEASANT VALLEY SHORTHORNS.

There are few stock farms in Canada so well and favorably known all over the Dominion and the United States among Shorthorn breeders as the Pleasant Valley farm and Shorthorn herd, the property of Geo. Amos & Son, Moffat, Ont., a station on the C. P. R., about twelve miles south of Guelph. The notoriety of the herd traces to that well-remembered September day in 1905, when they were awarded the grand championship on their stock bull, Old Lancaster (imp.), at the Canadian National Exhibition. Since then two of his daughters have won the grand championship at Toronto, while many other prizes of various degree have gone to this herd, principally on the get of Old Lancaster, and, while the writer makes no claim to the qualifications of a seer, it will be no surprise to him if the 1909 grand championship again comes to this herd on the white heifer, Lancaster's Bud, for she is certainly a wonder, and probably the best the herd has ever produced, which is saying a great deal. The exhibit at Toronto from this herd this year will be a very strong one, that will certainly bring a lot of fresh honors to the Messrs. Amos as one of the principal and most successful Shorthorn-breeding firms in Canada, and to the junior member as one of the world's greatest fitters. And what makes their remarkable success at the leading exhibitions most pleasing to themselves and to Canadian breeders of Shorthorns generally, is the fact that, with the exception of Old Lancaster, all their winnings have been made with cattle of their own breeding. The herd is now about 45 strong, nearly all of the breeding cows being imported, representing Scotland's most noted and fashionable strains. Among them are a number of one, two, and three-year-old heifers, that are a pleasure to look at; low-down, smooth-oven, and deep-fleshed. The bull in service for several years is Imp. Ben Lomond, a massive red son of Count St. Clair, dam Beauty 13th, by Lord Marshall, by the great Field Marshal. Of the prepotency of Ben Lomond as a sire, the public will be able to judge from the several of his get that will be on exhibition at Toronto. As chief stock bull, Mr. Amos lately re-purchased (as he was bred in the herd and sold as a calf) the splendid bull, Lancaster Flora, a full brother to Flora 90th, the grand champion of 1907 at Toronto, and of the Chicago International in 1908. This bull is sired by Old Lancaster, dam Scotch Lassie, by Gordon Prince, and is probably the best son of Old Lancaster. While he will not be in show condition for this fall, he has the best form, flesh, type and mellowness of touch that are found in champions when properly conditioned. Messrs. Amos have always on hand a few choice things of both sexes that can be spared for prices consistent with their quality.

THE SPICE OF LIFE.

Judge (sternly, to Pat and Mike, who have been arrested for fighting)—Now, which one of you took the initiative? Prisoners (in unison)—Begorra, sir, not I; wan of the bystanders must have swiped it.

"Uncle James," said a city young lady who was spending a few days in the country, "is that chicken by the gate a Brahmin?" "No," replied Uncle James, "he's a Leghorn." "Why, certainly, to be sure!" said the young lady. "How stupid of me! I can see the horns on his ankles."

W. S. Gilbert was lurching once at a country hotel, when he found himself in company with three cycling clergymen by whom he was drawn into conversation. When they discovered who he was, one of the party asked Mr. Gilbert how he felt "in such a grave and reverend company." "I feel," said Mr. Gilbert, "like a lion in a den of Daniels."

APPROPRIATE.

A clergyman went to have his teeth fixed by a dentist. When the work was done, the dentist declined to accept more than a nominal fee. The parson, in return for this favor, insisted later on the dentist accepting a volume of the reverend gentleman's own writing. It was a disquisition on the Psalms, and on the fly-leaf he had inscribed this appropriate inscription, "And my mouth shall show forth thy praise."

Darling Little Wife.—Little Willie was missed by his mother one day for some time, and when he reappeared she asked: "Where have you been, my pet?" "Playing postman," replied her "pet." "I gave a letter to all the houses in our road. Real letters, too." "Where on earth did you get them?" questioned his mother, in amusement. "They were those old ones in your wardrobe drawer, tied up with ribbon," was the innocent reply.

President Taft drove out one afternoon to see a Georgia planter. The planter's cook, a very old woman, takes no interest in public affairs, and she did not recognize the portly guest. "What did you think of that gentleman, Martha?" the planter asked, after Mr. Taft had driven off. "Well, sir," old Martha replied, "I can't say as I saw nothin' particular about him. He looked to me like the kind of man as would be pretty ragular to his meals."

THE "LUCKY MAN."

"We get some sad cases," said the attendant at the lunatic asylum to the visitor, and opened the door to the first cell.

Inside was a man sitting on a stool and gazing vacantly at the wall.

"Sad story," said the attendant; "he was in love with a girl, but she married another man, and he lost his reason from grief."

They stole out softly, closing the door behind them, and proceeded to the next inmate. This cell was thickly padded, and the man within was stark, staring mad.

"Who is this?" inquired the visitor. "This," repeated the attendant, "this is the other man."

One of the speakers at the dinner given in Cleveland by the National Educational Association was Booker T. Washington, the distinguished negro leader of the South. In the course of his remarks he told the following story about a Southern minister, who was evidently rather long winded.

"One Sunday morning, while the minister was in the midst of his sermon and had reached the point where he was shouting, 'And fourthly, dear brethren, a man poked his head through the door, and said in a low voice:

'Don't get too much excited, parson, but your church is on fire!'

"'All right, Brother Jones,' said the parson, 'will hasten out. But possibly you'd better wake the congregation, if you can't get the door open.'

How Hard Woods Decay.

Hardwood trees in the forest are attacked by many enemies. The mistletoe, the "witches' broom," and the southern mosses are all parasites that weaken and even destroy the trees. But by far the greater number of diseases of trees are caused by fungous growth. Some fungi destroy the leaves, some rot the roots, and some girdle the bark. Chestnut orchards have been destroyed in many places in the East by a kind of fungus which girdles the bark and kills the tree.

Then there are many kinds of fungi which rot the wood of standing trees, with no outward sign until after the value of the tree has been destroyed. The white heart-rot is the most common of these. It attacks the oak, walnut, hickory, beech, maples, and many other trees. The heartwood of the tree is changed by the action of the fungus into a light-colored, flaky sort of substance, which has no strength, and can no longer be called wood. Such a tree may live for many years, even though badly diseased, but it has no value for timber.

The outward sign, when it does appear, is a shelf-like growth upon the trunk. It is hoof-shaped, about as thick as wide, and may be anywhere from 1 to 2 inches wide to 12 inches or more. The upper surface runs from brown to black, the lower surface from gray to red-brown. Wherever such a tree is found it should be removed at once, for the longer it stands the less it is worth for timber, and it will surely spread the disease to other trees. Any sort of wound in a sound tree, such as a broken limb, gives an opening for the fungus to enter and establish itself, unnoticed until the heartwood is destroyed. Wherever such a wound can be promptly coated with hot coal-tar creosote, or some other good antiseptic substance, it may be saved from infection.

Timbers are also subject to attack from many kinds of fungus. Indeed, fungi are the principal cause of decay in structural timbers. They enter the timber by means of checks and live upon the wood, breaking it up until its strength is gone. Railroad ties in the roadbed often appear perfectly sound, although the whole center has crumbled.

After timbers have been cut from the log, they should be dried as rapidly and evenly as possible so as to remove the moisture and prevent checks. Wood should not be placed in contact with the ground until it has been thoroughly dried. Otherwise some fungus will enter and cause rapid decay. Where large timbers are needed, they will be less liable to decay if built up of several pieces; for instance, instead of using a 12 by 12 piece, use four pieces of 3 by 12, bolted together. Timbers can be even more effectively preserved against decay by chemical treatment with creosote and other substances.

Bulletin 149, of the Bureau of Plant Industry, U. S. Department of Agriculture, entitled "Diseases of Deciduous Forest Trees," recently issued, contains details concerning the fungi referred to, as well as many others.

WHAT'S IN A NAME?

When a man marries, it is just as legal for him to take his wife's name as for her to take his. Thus, if Mr. Johnson marries Miss Robinson, they can legally call themselves Mr. and Mrs. Robinson, if they please, says the Chattanooga Times:

So Chief Justice Willigm B. Crew, of the Ohio Supreme Court, declared. The Chief Justice was discussing the case of the young woman of Irondale, Ohio, who refused to wed a man because she did not like his name, and the court would not let him change it. The young woman and the learned judge at Irondale had a colloquy something like this:

"His name is Beefsteak, and, although he is tender and true, I cannot wed a man by that name. How does Mrs. Beefsteak sound, your Honor?"

"Beefsteak is an honest and substantial name," said the judge. "I see no reason to change it. I suppose if his name was Lobster, or Truffles, or Pate-de-Pois-Cras, you would consider that aristocratic and marry him. By-the-by, what is your name, miss?"

"Lamb."



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AMATITE roofs need no painting. The owner need never look at them; they take care of themselves. They are "no trouble" roofs. They present to the weather a real mineral surface against which storm and wind and snow are absolutely powerless. This surface does not require constant painting like the smooth surfaced or so-called "rubber" roofings. The mineral surface is far better than paint.

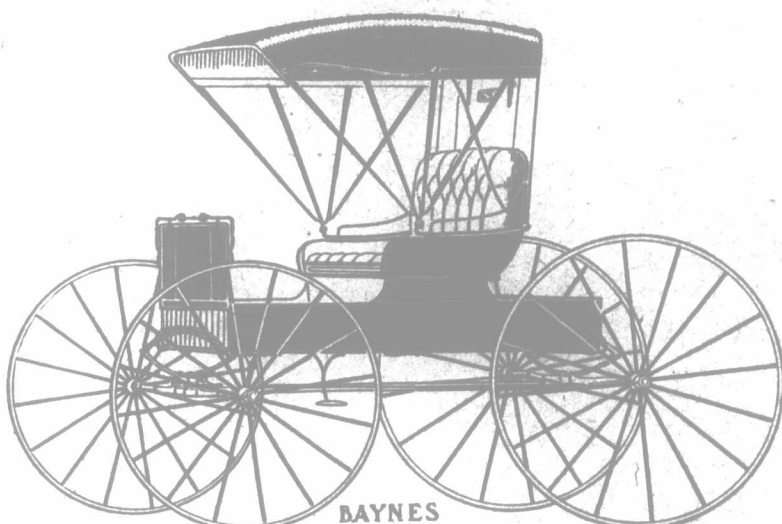
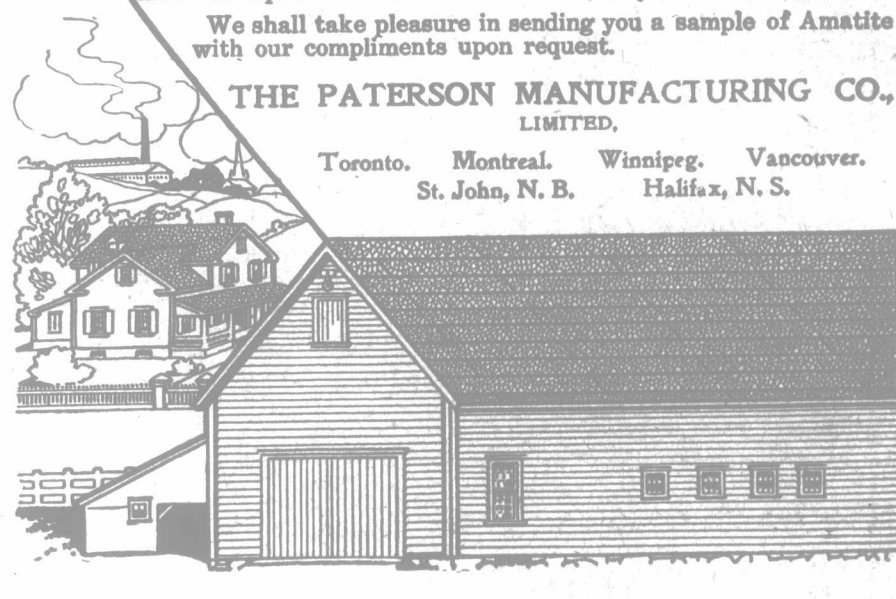
Of course before Amatite came, the "smooth surfaced" roofings were the best kind to buy. Now that Amatite has been invented and thoroughly tested by years of use, painting a roof is wasteful and unnecessary. The cost of painting a "rubber" roofing from year to year will soon cost more than the roof itself. That is why everybody who knows about roofing is buying Amatite nowadays. It needs no painting.

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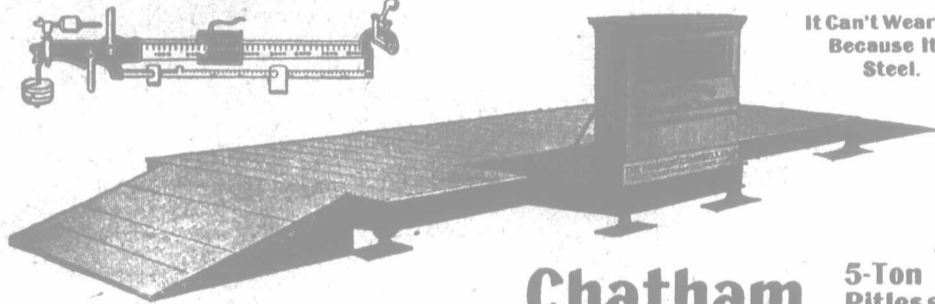
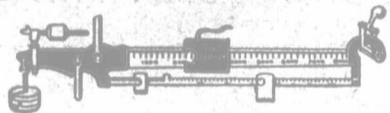
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W. F. MACLEAN.

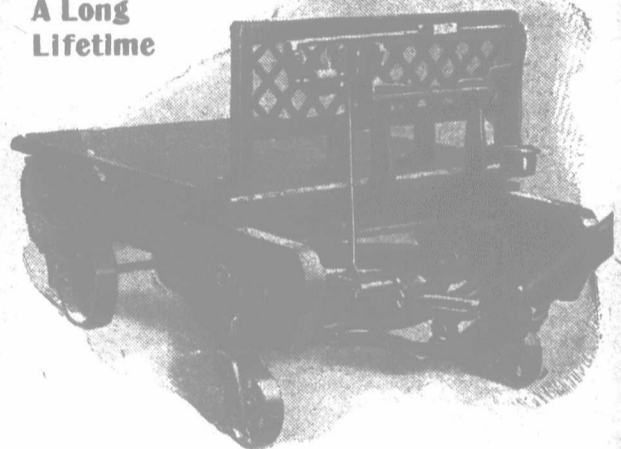
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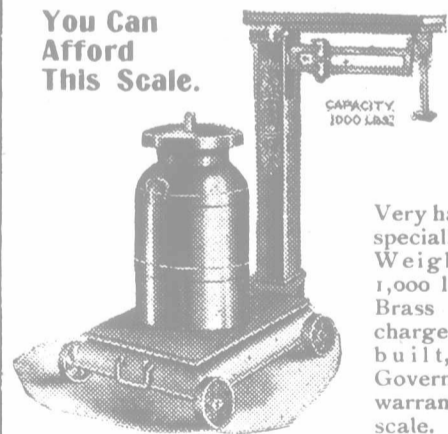
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