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* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

Vol. XLV.

LONDON, ONTARIO, APRIL 14, 1910.

No. 916



Take Your Pick of the Two Best Fences Made

Whether you want a Machine-made or a Field-built Fence, you cannot find equals to the Frost.

We'll send you a free booklet, describing in detail the Frost Woven and the Frost Field-built Fences.

We have figured out the real reason why so many Wire Fences in Canada rust about 12 or 15 years sooner than they should.

And we have also figured out the only method of Wire-making to overcome this vital weakness.

So we now Make and Galvanize our own Wire. No other exclusive Fence-maker in Canada does that.

Two-thirds of the life of a Wire Fence depends upon its Galvanizing. Yet, in the very face of this, nearly every Fence made in Canada is Galvanized too badly.

The Reason

The reason is because Zinc is four times more than Wire.

Another reason is that if most Fences were Galvanized properly, that Galvanizing would peel off.

Because heavy Galvanizing cannot adhere permanently to heavy, scaly Wire. That scale

is certain to chip off, and with it goes Mr. Galvanizing.

The Frost Fence is double Galvanized—not merely "coated." But it will not peel off. Because Frost Galvanizing is a part of the Wire itself.

You see, Frost Wire goes through three thorough "Cleaning" processes before it ever goes near a Galvanizing Furnace.

This positively removes every bit of grease and scale, and leaves the surface perfectly clean.

This double Galvanizing will endure the severest Canadian weather changes. It will fight off rust for 25 or 30 years.

Ends Won't Spring

The closely-cut ends of the Frost Woven Fence Lock prevent it from springing.

The Frost is the most secure Lock known. It cannot slip or work loose. It possesses more inches of Wire than any other Lock made.

The Frost Lock has a powerful "Knot," with a non-slipping Triple "Wrap." This Triple "Wrap" makes the Frost Lock 100 per cent. more secure than any other.

No other Fence-maker in Canada can make this Lock. Be-

cause no other Fence-maker can get the necessary machine. We are the only people who can make this machine.

Strongest Part

The weakest spot in most Field-built Fence is the Lock.

The Frost Field-built Fence Lock is the only Lock which permanently binds the extra heavy Stays to the coiled Laterals, without injuring either.

Tests which have destroyed other Fence have left the Frost uninjured. These tests have proven that the Frost is the strongest Field-built Fence Lock on earth.

Proper Temper

The Frost Fence can be safely stretched tighter than any other Fence we know of.

Because Frost Wire is Annealed to the proper degree of temper. This makes it more elastic, and stronger, than any Fence in Canada.

But because the "Frost" degree of temper is a secret, no other Wire in Canada is tempered to withstand Canadian conditions.

That's why the Frost Fence is the strongest. We are anxious to prove this.

Not Mere "Excuses"

The Frost is the only Fence which will properly "Give" when contracted, and "Take in" when expanded.

Most Fences are provided with Curves, Kinks or Tensions, as "excuses" for "Give" and "Take."

But because those "excuses" kink the Wire, it is weakened. It is sure to break under ordinary strain.

But the "Coils" in the Frost Fence do not kink the Wire.

When contracted, these Coils "Give" their surplus, instead of snapping. And when expanded, they "Take in" that surplus, instead of letting the Fence sag and lose its shape.

And no matter how often contracted or expanded, the Frost Fence always acts the same.

Write To-day

We are anxious to send you our free booklet on Fence, together with samples of the Frost Fence and Locks, postpaid.

This booklet tells all about Fence, and shows you how to buy the right kind for Canadian purposes. It's worth a lot of money to you.

Send for it to-day.

The Frost Wire Fence Co., Limited, Ontario
Hamilton,

"Frost" Fence

Agents Wanted in Every Province

"Ideal" Fence has features that shrewd buyers appreciate

That's why our Agents are so successful

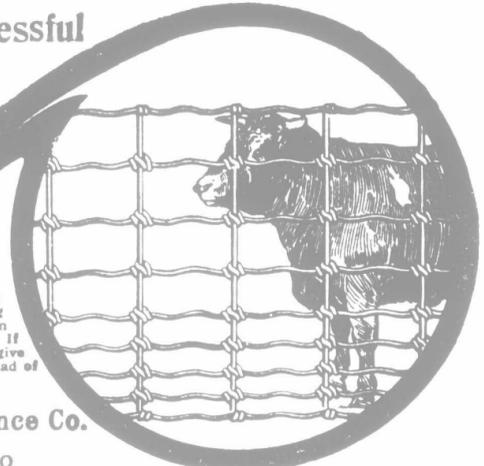
Taking orders for "IDEAL" fence is far easier than you may think. The "IDEAL" has features that shrewd buyers appreciate. The railways buy "IDEAL" because of its weight and quality, because of the gripping tenacity of the lock on the

"IDEAL" WOVEN WIRE FENCE

It is undoubtedly the strongest fence lock in existence. The farmers buy "IDEAL" for the same reasons as do the railways. "IDEAL" fence is easiest to sell. That is why our agents are so successful.

Don't you think it would be wise to write us for complete particulars in regard to becoming the "IDEAL" fence agent in your locality? Do so to-day. If you wait until to-morrow you give your neighbor a chance to get in ahead of you.

The McGregor-Banwell Fence Co.
Limited
WALKERVILLE, ONTARIO



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We're the largest Bagpipe dealers in North America.

Lowrie's famous make is the kind we sell. Write to-day for

FREE CATALOGUE

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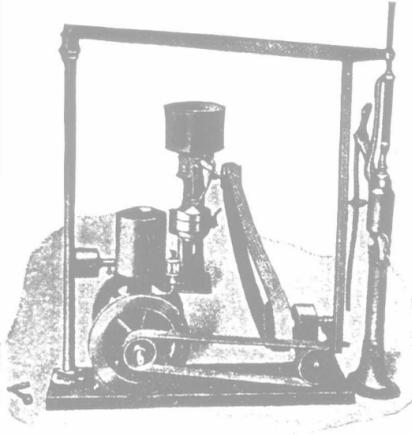
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Windmills,
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Tanks,
Water Boxes,
Concrete Mixers,
Etc., Etc.

Send for catalogue.

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Brantford, Canada.

Northern Ontario

The forest and mineral wealth of Northern Ontario has attracted many people from all parts of the civilized world.

One ninth of the world's reported output of silver in 1908 was taken from Ontario mines.

New discoveries of undoubted richness are being constantly reported from sections far distant from the far-famed Cobalt. Yet a more certain reward is insured to the settler who acquires for himself 160 acres of the rich agricultural lands now open for settlement and made accessible through the construction of railways and Colonization Roads.

The fertility of the soil is unsurpassed. The timber is in demand at a rising price. Mining, railway and Colonization Road construction, lumbering, etc., afford work in abundance to those who have not the means to remain on their farms continually. These also provide a market for farm produce at prices unequalled anywhere.

At the terminus of the T. & N. O. Cochrane, the terminus of the T. & N. O. Ry. on the G. I. P. Transcontinental Railway, now under construction, is in the same latitude as the southern part of Manitoba, and 800 miles nearer the seaboard.

That the experimental stage is past is clearly demonstrated. The country is rapidly filling up with settlers from many of the other Provinces, the United States and Europe.

For information as to terms of sale, homestead regulations and for special colonization rates to settlers and for settlers' effects write to

D. SUTHERLAND, The Director of Colonization,
Parliament Buildings, TORONTO.
HON. J. S. DUFF,
Minister of Agriculture.



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CANADIAN AIRMOTOR

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Seed Oats and Barley Improved Ingow... sample; Mandscher... Satisfaction guaranteed. For prices, samples, etc., write to WM BARNET & SONS, Fergus P. O. C. P. R. and G. T. R.

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When Writing Mention The Advocate

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shows on analysis a higher percentage of active sulphur in solution than other brands or the home-boiled article. It is therefore more certain to thoroughly destroy all parasites and fungi, including the San José Scale.

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kills 95% of codling moths where Paris Green at its best will not kill over 75%. It is a sure destroyer of all leaf-eating insects. Easy to spray as it settles slowly and does not clog the nozzle.

Sticks much better than Paris Green. Never burns or injures the foliage.

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Synopsis of Canadian North-west Land Regulations.

ANY person who is the sole head of a family, and is under 18 years of age, may homestead a certain section of available Dominion land in Manitoba, Saskatchewan, or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-Agency for the district, either in person or by proxy, for the district, to certain conditions, by father, mother, son, or daughter, brother or sister of incoming homesteaders.

After six months' residence upon and cultivation of the land in each of three years. A homestead may have within nine miles of his homestead on a farm of at least 80 acres, which is not occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may pre-empt a quarter section along with his homestead. Price, \$3.00 per acre. Duties must reside six months in each of six years from date of homestead entry, including the time required to earn homestead patent and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right, and cannot obtain a pre-emption, may take a purchased homestead in certain districts. Price, \$3.00 per acre. Duties must reside six months in each of three years, cultivate fifty acres, and erect a house worth \$300.

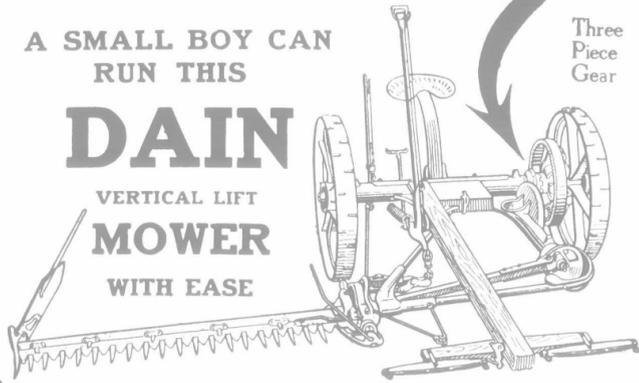
W. W. CORRY,
Deputy of the Minister of the Interior.
No unauthorized publication of this advertisement will not be paid for.

Boys for Farm Help

The managers of Dr. Barnardo's Homes invite applications from farmers, or others, for the boys who are arriving periodically from England to be placed in this country. The most advantageous are mostly between 11 and 13 years of age, all will have passed through a period of training in Dr. Barnardo's English Institutions, and will have been carefully selected with a view to their mental and physical suitability for Canadian life. Full particulars as to the terms and conditions governing the boys are placed in the enclosed application to Mr. Alfred B. Green, Agent, Dr. Barnardo's Homes, 50-52 Peter St., Toronto.

A SMALL BOY CAN
RUN THIS

DAIN
VERTICAL LIFT
MOWER
WITH EASE



AND THIS IS WHY

The Dain Vertical Lift feature is controlled mechanically—not by sheer *human strength*, when raising the cutter bar over stumps or stones; or in turning corners. A pull at the hand lever or a push on the foot lever, and the cutter escapes all obstructions. In raising the cutter bar to an upright position, for transportation, the operation is made an easy and rapid one by using the hand lever and the foot lever together. This automatic control is at the driver's right. It is worked *while in the seat*.

The *draft* of the Dain Vertical Lift Mower is reduced to the smallest possible resistance because the *weight* of the cutting apparatus is carried on the *wheels* by means of the Dain adjustable coil spring. This large, strong coil spring keeps the cutter bar down to its work, and the *cutting power* is largely increased. Conditions being equal, the Dain Vertical Lift Mower will *cut more* hay and cut it *easier* than any mower made, and after the same amount of work will be in better condition than any other mower. For this reason, it lasts longer, and proves without doubt the very best mower investment that you could possibly make, from *your standpoint*.

The Dain Vertical Lift Mower is designed to make mowing *easy*. It is wonderfully strong. It is simply built and easiest handled. Saves *your strength* and spares your horses. Dain mowers are made to *last* and do their work the way *you* want it to do. Ask the nearest Dain agent. He'll gladly show you *why* no other mower is as good. A post card request will bring our booklet of conclusive reasons why the Dain Mower is the mower for *you*. Tells you all about mowers. Don't wait. Get your pen and write *now*.

DAIN MANUFACTURING COMPANY, Limited
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In Touch with the Office



THE business man can be in two places at the same time if he uses the Bell telephone.

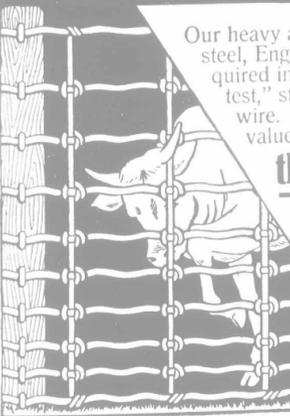
It provides him with the means of keeping a watchful eye on the progress of the day's work. He can consult his partners, give instructions, make appointments, and hold personal interviews, though confined at home.

If he wants to do business in distant cities, the everywhere-reaching lines of the Bell system will afford immediate communication.



THE BELL
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"Peerless" The fence that stands up against every strain



Our heavy all No. 9 PEERLESS Fence, made from hard steel, English Wire, has double the strength ever required in a wire fence. The galvanizing, by the "acid test," stands twice as much as that on some fence wire. This means many years longer life—greater value. Do you want the best?

the fence that saves expense

because it needs no repairs and lasts a lifetime. It is rust that destroys wire fences. English Wire Manufacturers know how to prevent this. To this English wire add the PEERLESS method of construction and the PEERLESS lock and you have a fence without a rival. We are manufacturers of high grade farm, poultry, ornamental fencing and gates. Write for book.
THE BANWELL HOKIE WIRE FENCE CO., Ltd.
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You can't afford to farm without Planet Jr. implements. They are the greatest implements ever invented to prepare the ground for big results and lighten farm and garden labor. Over two million farmers and gardeners are now using Planet Jrs. Strong and lasting. Fully guaranteed.

No. 4 Planet Jr Combined Hill and Drill Seeder, Wheel-Hoe, Cultivator and Plow, saves time, labor, seed and money. Almost all useful garden implements in one. Adjustable in a minute to sow all garden seeds, hoe, cultivate, weed, or plow. Pays quickly, even in small gardens.

No. 12 Planet Jr Double-Wheel Hoe, Cultivator, and Plow is the hardest implement ever made for truckers and gardeners. All cultivating parts are of high-carbon steel to keep keen edges. Specially designed to work extremely close to plants without injury. Does away with hand-weeding.

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Write for the Name of Our Nearest Agency.

Ewing's

PROFIT-MAKING SEEDS.

Do you realize that the little things in life often upset your most carefully-laid plans and turn what looked like success into failure? The Seeds you sow are little things, but think what depends upon their quality.

Your land may be excellent, the weather ideal, and prospects bright and rosy, but where do you stand if your Seeds refuse to grow?

You can't tell the strength and growing ability of Seeds by looking at them, and by trying to save a few cents on the purchase price, you run the risk of getting an inferior grade that will cut down your profit at the end of the year by many dollars.

Ewing's Seeds are reliable. They are grown from the strongest, healthiest and most perfect plants that can be produced. They are carefully selected, and will grow crops that will repay you for your work.

When you buy your seeds this year, specify "Ewing's" and be sure that you are right. Don't accept substitutes. If your dealer can't supply you, write us.

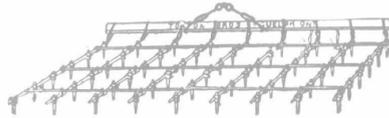
WRITE ANYWAY FOR OUR BIG ILLUSTRATED CATALOGUE. IT'S FREE, AND YOU WILL APPRECIATE IT.
WM. EWING & CO., Seedsmen, McGill St., Montreal.

Seeds

WHEN YOU BUY, BE SURE THAT IT IS A

Tolton Harrow

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STEEL



ALL
STEEL

Section and Flexible All-Steel Harrows with an unequalled record. A large variety suitable for the requirements of any country, made in different widths to suit purchasers. Pre-eminently the most efficient, strongest, and longest-wearing Harrows is our unqualified guarantee. Parties wishing a first-class Harrow will do well to write us direct or apply to the local agent. Address Dept. F.

OUR MOTTO—"Not How Cheap, but How Good."

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AVOID HIGH-SPEEDED, QUICK-WEARING, CHEAPLY-CONSTRUCTED, IMITATING CREAM SEPARATORS.

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SPELL SEPARATOR SAFETY

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MAKE DAIRYING PAY BETTER

Strain your milk as it leaves the cow, not afterwards, and see that you strain milk only, not milk, dirt and bacteria. You can make pure milk an absolute certainty by using the

STERILAC SANITARY PAIL

Note its clever construction. The funnel is detachable. As the milk falls on the slant towards the milker, it passes direct to the strainer into the pail. All dirt falling into the opening is caught on a deep metal shell inside the funnel—not on the strainer—thus milk and dirt never come in contact. You can use ordinary cheese cloth for straining. Capacity 14 quarts, no joints on the inside; it is easily cleaned. Price, \$2.50. Used by all up-to-date farmers and dairymen.

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Cools milk rapidly, within 2 degrees of running ice water, well or spring water, whichever you use. Rapid cooling and thorough aeration ensures milk keeps sweet for 48 hours and destroys odors. The milk flows through the perforated pail on top on to the corrugated body which ensures the milk running down slowly so that it is perfectly cool when it reaches the rubber pan. There are outlets at each side of this pan. This cooler is well made, has polished seams, is easy to clean and simple to operate. Will last for years. Price, \$6.50. Guaranteed as represented. Write for large catalogue of dairy supplies, FREE.

W. A. DRUMMOND & Co., 175 King St. E., Toronto



LIGHT YOUR HOME BY ELECTRICITY

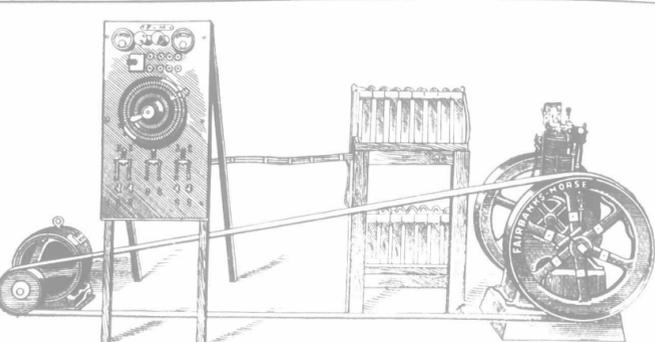
FAIRBANKS-MORSE
RESIDENCE ELECTRIC LIGHTING PLANT
50 Lights—5 cents an hour.

WE HAVE standardized the electric lighting plant shown above, and are prepared to furnish it with a complete outfit of fixtures, shades and lamps, suitable for a high-class country residence or farm, ready to put up. Everything is included except the wire, which we can furnish in quantity and size required at market price.

The dynamo will run 50 lights all the time; the storage battery will run 9 lights eight hours, 13 lights five hours, 18 lights three hours or 30 lights one hour.

The dynamo can be run during the hours when the most light is wanted, and the battery will carry such lights as are needed during the night and daytime. This allows the engine (a Fairbanks-Morse Gasoline) to be used for general farm power. Prices and further information upon request.

THE CANADIAN FAIRBANKS CO., LIMITED
Fairbanks Scales—Fairbanks-Morse Gas Engines.
Montreal. Toronto. St. John, N. B. Winnipeg. Calgary. Vancouver.

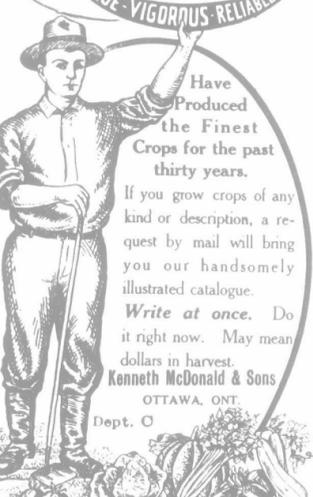


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TESTED SEEDS
TRUE-VIGOROUS-RELIABLE

Have Produced the Finest Crops for the past thirty years.

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Kenneth McDonald & Sons
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"BT" STEEL STALLS and STANCHIONS

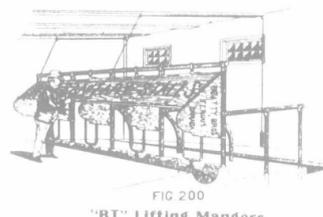
Are an absolute necessity, if you wish to have sanitary, up-to-date stables. With them installed you will have more light and room in your stable, and your cows will be clean and comfortable.

In the recent competition held by the FARMER'S ADVOCATE for the best plans of barns, great interest was taken. This goes to show that farmers are beginning to see how necessary it is to have good stables.

Our new catalogue on barn plans and equipment gives some of the latest ideas and suggestions from the Milk Commission Report, Agricultural Colleges and prominent dairymen. It is free, and will be of interest as well as helpful to you. Write for it to-day.

FIG 200
"BT" Lifting Mangers.

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Originated in this City about 20 years ago, and after thorough test it has proven the hardest, most productive of the finest berries of any variety in America. It stood a temperature of 59 degrees below zero at the Government Experiment Station in the Peace River District last winter. For information about this and other hardy lines of fruit trees and plants, ornamentals, etc., and for eggs of Buff Orpington, White and Golden Wyandotte fowl, write:

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Send for samples of our re-cleaned seed, "GOLD COIN," \$9.00 bush, "EXCELSIOR," \$8.60 bush.

Bags extra. Cash with order. F.O.B. Thamesville.

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Do you want to know how to take care of and run any kind of boiler and engine? Our course by mail teaches you fully the care, construction and operation of all kinds of boilers and engines, and fits you fully for the examination for engineer's license in any Province. Courses also in Commercial work, Public and High School subjects, etc. Ask for anything you need.

CANADIAN CORRESPONDENCE COLLEGE LIMITED
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CHURCH'S COLD WATER Alabastine

None Genuine Without Little Church on Label

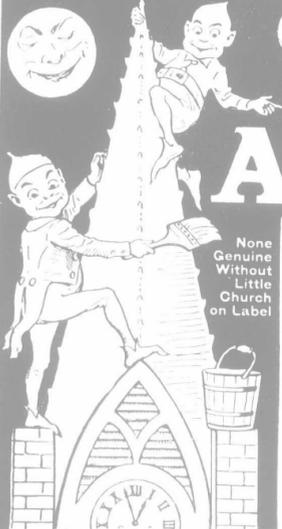
ALABASTINE is now the general vogue in cottage and mason alike. Alabastine is more artistic and sanitary than Wall Paper, more effective than oil paint, more permanent than Kalsomine.

Alabastine is a dry powder, made from Alabaster Rock. It comes in white and 21 tints. Alabastine is ready for use by mixing with cold water, and is applied with a flat bristled brush. Its colors are permanent, and do not rub off. Alabastine is a cement, and hardens with age. It can be recoated without removing the old coat.

FREE STENCILS

We have organized a Decorative Department, and will furnish FREE COLOR SCHEMES to all users of Alabastine. We also offer FREE STENCILS for producing the design we suggest. Write today.

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A Commercial school of the highest grade. A school without a superior in the Dominion. Catalogue free. Elliott & McLachlan, Principals.

Land Plaster

Car lots or any quantity. Write for prices.

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128 Adelaide St. E. Toronto, Ont.
G. J. CLIFF, Manager.

Please Remember to Mention "The Farmer's Advocate" When Writing

The Farmer's Advocate

and Home Magazine

"Persevere and Succeed."

Established 1866

Vol. XLV.

LONDON, ONTARIO, APRIL 14, 1910

No. 916

EDITORIAL.

The farmer, who has been under the harrow, is now in a position to ride in a front seat on top of the band-wagon.

The annual slaughter of the innocents—thousands of dekins weekly—goes on as usual in the Ontario dairy districts. Small wonder that cattle are scarce.

The Ottawa correspondent who spoke about Mr. Borden "taking the bit in his mouth" must have been city-bred. A farm boy would have said "in his teeth."

Canada's estimated Federal revenue for the fiscal year which ended March 31st is over a hundred million dollars. Verily, the day of big things is come upon us.

With four good live agricultural colleges, Canada should be able to send at least a second students' judging team to the International. Success to Prof. Peters' proposed team from the M. A. C.

From the consumer's viewpoint, the scaling down of duties on a number of articles, chiefly luxuries or semi-luxuries, will not be unacceptable under the new tariff arrangement between Canada and the United States.

Whether it is better for dairymen to raise their own cows, or pay railways to haul them up and down the country, and the commissions of auctioneers and drovers, is a question in economics that deserves an answer.

A Middlesex County cow-drover, who has been gathering supplies of dairy cows for Western Ontario factory sections from Eastern counties, states that the farmers there are now getting wise, and do not hand out bovine bargains any more.

Fraud in fruit-packing must be put down sharply in the interest of consumers and honest growers. Tampering with grade-marks after they have passed the inspector, is the limit, and should be punished with the full penalty of the law.

In a well-timed editorial urging Western Ontario farmers to remain in their own Province and develop the splendid agricultural resources at hand, the London Advertiser pithily remarks that those who now go away have fed the cow, and are leaving just as the milking is about to begin.

Alberta's earnest quest is for a Western outlet for her grain crop. Already a large proportion goes Westward, and in the face of poor storage facilities at the Pacific Coast. It has been recently stated that, during the previous ten months, 200,000 bushels of wheat had been shipped through Vancouver to Mexican ports.

Fame and fortune await the level-headed young Shorthorn breeder who, with the courage of his convictions, will start in right now to breed dual-purpose, pedigreed cattle, selecting with his eye for form and fleshing, supplemented by milk scales and Babcock test to discern and gauge dairy quality. Let him cut loose from fads, ignore fashions, and breed cattle—genuine utility stock. There never was a better time to start than now.

Currents in New Brunswick Agriculture.

Two significant economic statements appear in the New Brunswick report of agriculture for 1909, by the Commissioner, D. V. Landry, M. D. There was, first, a large shrinkage in live stock of all classes, except swine—of horses, since 1901, some 6,000 head; cattle, 2,800, and sheep, 39,000. Cheese-factory output showed a slight gain over 1908, and butter a shrinkage. In startling sequence, it is also recorded that St. John City alone sent to points outside the Province, for butter, nearly \$30,000; cheese, over \$14,000; pork and pork products, \$511,000; poultry, \$6,000; eggs, \$28,000; horses, \$40,000; cattle and beef, over \$100,000—a total of over \$729,000—nearly every other town in the Province also buying direct from the outside. Underproduction, like a universal epidemic, seems to have touched this Province. Making allowances for the scarcity of people to work on the farms, and their disinclination to the continuous care of live stock, coupled with the unsatisfactory methods of drovers and other buyers, still there should surely be a paying future in developing the agricultural and live-stock possibilities of this fine old Province. Fruit-growing has been receiving better attention, with good results; and potato-growing has become a large business, last year's crop being 8,968,098 bushels, as against 7,836,374 in 1908, an increase of over 50 bushels per acre above the average for the past twelve years. A new market in Havana was developed, but prices ruled low for potatoes of such high quality as New Brunswick produces. In fact, some people who quit dairying to try potato culture are beginning to realize that they made a mistake—so this report tells us, when the natural dairy conditions are so favorable. For the promotion of horse-breeding, three Thoroughbred stallions and seventeen mares from Kentucky were imported under Government direction, and sold, and three other Thoroughbred stallions were also secured for service in the Province from the National Bureau of Breeding. A greater importation was that of 64 Clydesdale mares from Scotland, all but six of which remained in New Brunswick, and two stallions. Dr. Standish, V. S., upon careful examination, pronounced them a promising lot, and their distribution through the Province, it is anticipated, will have a wholesome effect in so far as they go.

The fact is encouraging that agricultural societies are progressing, 22 new ones being organized and incorporated during the last two years. Under the heading, "Improvement of Seed," is a reference to the seed-selection competitions initiated by Dr. Jas. W. Robertson, and a reference to the Seed Branch of the Department of Agriculture at Ottawa, and the Canadian Seed-growers' Association, "two organizations which, backed by growing public opinion, are working a wonderful reformation, not only in the seed trade of the country, but also in the attention which the average farmer is giving to the selection of good seed."

The report is to be commended in that it discloses a continued effort to identify rural-school work with rural life and occupations by means of nature study and the use of those subjects in teaching which have some useful application in the future lives on the farm of the young people. One of the dairy superintendents, C. W. McDougall, worked out a new venture in November and December last, visiting the rural schools of King's County, giving popular lectures on dairying, with local application, as far as practicable. The teachers and Inspector Steeves co-operated heartily, and the course was well received by scholars, teachers and visitors. The New Brun-

wick Department of Agriculture wisely encourages the attendance of students from the Province at agricultural colleges (chiefly Truro), and the number of those going has steadily increased, from 11 in 1906, to 34 with the beginning of 1910. Happily, the idea is becoming well rooted in the minds of the people, as was well expressed by His Excellency Earl Grey, at the Maritime Winter Fair, that, "The people who live in the country have the greatest enjoyment that life can offer," and that the great problem of modern statesmanship is to make country life more profitable, attractive and enjoyable, so that the unfortunate exodus of people from the country to the towns may be stayed. This, he pointed out, was to be accomplished in two ways, by education, and by co-operative association by those engaged in farming.

The New Era in Nova Scotia.

Even to the casual observer it must be apparent that the glow of a new era has more than dawned over the blue hills and fertile vales of sea-girt Nova Scotia. Regenerative forces in its farming are at work. The Province has always had faith in education, and on the honor-roll of great men, wisdom has been justified of her children. This foundation makes the progress of agriculture all the more secure. There is, happily, now less looking to distant fields. Confidence in the splendid resources right at hand develops enthusiasm upon which rewards attend. There is little doubt, as is the case with the other Eastern Provinces of Canada, that the swing of progress in approaching years will be still more marked, by reason of its own momentum. This is invariably true of thoroughgoing methods based on knowledge, in vivid contrast with delusive short-cuts to wealth. Good tillage, drainage, manuring and live-stock husbandry are cumulative in their effects, like money drawing compound interest in a savings bank. It is recorded in the annual report of the Secretary for Agriculture, Prof. M. Cumming, head of the Agricultural College at Truro, that newcomers, in the person of Scottish and English farmers of a desirable type, are settling in the Province, and in the future splendid results are anticipated from the work of the newly-organized Department of Industries and Immigration. While, on the outside, Prof. Cumming's report has the usual staid appearance of Government publications, there are all the evidences of vitality and growth within. Some excellent photogravures illustrate its contents. Last year was a good one for Nova Scotia farming—better than 1908—and Part I. deals with outstanding features, such as the growth of Agricultural Societies from 167 to 179, coupled with the fact that these organizations are now devoting practically all their funds to the purchase and maintenance of the best class of improved live stock. Reviews are given of the various departments of the Agricultural College. Not counting Farmers' Clubs, 226 public meetings in the interests of agriculture were held in the Province, with an attendance of 11,061. Never in the history of Provincial agriculture has there been such a demand for meetings, and the services of good local men as speakers are most appreciated. Exhibitions, general and special, were most successful, and proved a powerful incentive to build up agricultural interests. There are now some 33 model orchards in operation in the Province, particularly valuable for demonstration purposes. The oldest of them have been out eight or nine years, and are giving good returns. The establishment of an experimental fruit station is likely to be commenced at once. Two hundred barrels of the choicest Nova Scotia fruits were

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED)

JOHN WELD, MANAGER

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

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sent for exhibition last year to leading Provincial shows in England and Scotland, to promote trade. The fruit crop was large, but the fruit was somewhat softer than usual, and prices too low. Vigilant measures are being enforced to keep in check the brown-tailed moth, about 10,800 nests being destroyed in the past three years. This is most commendable, when it is remembered that, within from 4 to 6 years after the moth invaded Massachusetts, it became so destructive a pest as to involve the expenditure of above a million dollars to fight it. The year was particularly favorable for live stock, prices for animals and products being alike high. Great improvement is being made in dairy stock, and the growth of interest in heavy-horse-breeding is phenomenal. As an example of what can be done with cows, the whole Agricultural College herd, including Jerseys, averages nearly 10,000 pounds of milk per year. Standing field-crop competitions were inaugurated last year, with encouraging results in stimulating the growing of better grain. The Dominion Department of Agriculture aided in the work, and 39 competitors entered in the six competitions. Though but five years have elapsed since the Agricultural College was organized upon its present basis, the attendance in the regular course has doubled, and in the short courses increased sevenfold, while at the Rural School of Science for teachers affiliated with the Normal College, 102 teachers were in attendance. Graduates receive a diploma, and extra grants for their work as teachers from the Government. This is encouraging. Not more than five per cent. of farm boys, as a rule, attend agricultural colleges, and it being a sound principle to establish such institutions to educate students for life on the farm, it is self-evident that for the rural public schools of Canada special preparations should be made, that the education imparted shall relate to the noblest and most important of material pursuits—agriculture.

Part II. of the report under review contains a valuable series of educational articles by specialists upon "Soils, Soil Cultivation, and Crops in

Nova Scotia," well worth reading in other Provinces and States.

In Part III. is given an admirable resume, in condensed form, of the work of the Agricultural Societies and Associations, by the Superintendent, F. L. Fuller. The outstanding feature of the present year's work in Nova Scotia will be the development of the drainage policy adopted, a traction ditcher having been ordered, with which drainage will be done for farmers by the Department of Agriculture, at actual cost, and on payment of expenses, as in Ontario; experts will be furnished to lay out farm-drainage systems.

Some Educational Topics of the Hour.

"Children's power as to what they can take in at any one time is limited. Time is wasted, and the child is injured by endeavoring to drive the subject in beyond that limit." So said Dr. Balliet.

Towards "bureaucracy, rather than democracy," was Principal Burt's description of Ontario's educational drift.

"Better," said Principal Lyman C. Smith, "break every commandment in the decalog than depart one jot or tittle from the regulations. Absolutely, the sole object of inspection appears to be to see whether the regulations are carried out."

These are samples of hot sparks from the reports of the big convention of teachers which met in Toronto recently.

The Ontario Educational Association has just closed the largest convention in its history of forty-nine years. Its work is done in a score or more of separate sections, but these unite in groups for the discussion of subjects of common interest. Three general meetings were held to listen to addresses by President Ward, and Dr. Balliet, Dean of the Teachers' Training College of Columbia University.

The latter, in an address on "Fads and Frills in Education," surprised those who have not been following the recent trend of educational thought, by declaring that reading, writing, spelling—subjects often honored as the essentials—are really the "fads and frills"; that is to say, the novelties, while nature study, manual training, drawing, cooking, sewing, are the essentials. To this, some people, we fancy, will immediately exclaim, "Bosh!" but, were they to follow his argument throughout, they might have difficulty in refuting it. He argued that the essential quality of education is to produce the fitness and competence of its subject. A cook is discharged not because she cannot spell correctly, but for incompetence or unfitness for her duty. The use of writing and books goes back less than one-sixth of the history of human development. In its earlier periods, education almost entirely consisted of house-building, food-getting, clothes-making; in other words, nature study, manual training, cooking and sewing were about the whole course of education. The three R's have been added only within a few hundred years. The greatest leaders of the race are, to a small extent, if at all, the products of book-learning.

In another connection, the same speaker argued for a single type of public school, with a manual-training course, and three types of High Schools, into which the public-school graduate would enter according to his bent or circumstances. These High-school types would be the literary, commercial and technical, and at the head of each he would have a principal specialized by training for the objects of the school.

We present Dr. Balliet's views thus freely, not as agreeing with them, for in our opinion they are extreme. While thorough in sympathy with those phases of education such as nature study and manual training, calculated to place the child more closely to his environment and balance off the too bookish tendency of our schooling, we would hold that development of character and culture should be the pre-eminent aim of education, and furthermore we must recognize that the three R's, so-called, are the means of access to the higher

literary, scientific and other knowledge which the modern world has inherited from the ages.

Public attention was most strongly attracted by the fierce onslaught on the new Ontario readers and spelling-book. The attack on the primer occupied so much time that the other books almost escaped. Its subject-matter, arrangement, and lack of phonic sequence, were roundly denounced. It had not a single defender. The resolution to revert to its predecessor was opposed only by another to leave it optional. The determination to get relief from it was evinced by the fact that lady teachers from all over the Province, by a standing vote, defeated a motion to adjourn the discussion, although the time was past the dinner hour. The chief faults found with the new spelling-book are that it heavily and unnecessarily burdens the children to learn solid columns of difficult words that they may never need to use, and that it teaches the archaic and more difficult forms of many words, such as "favour," "checquers," "cosey," etc. A resolution declaring its unsuitability was carried, without opposition. Another resolution, to reduce the punishment for a mis-spelling, at the entrance examination, from two marks to one, until a simpler spelling-book is authorized, was also carried.

Had it not been for the text-books, the proposed new curriculum for public schools would have been the leading topic. The proposal to make eight classes, instead of the present four, did not carry. The rural-school teachers are pretty unanimous in preferring four classes, with the power to divide them, so far as advisable, into junior and senior.

Improvement of Spelling.

In connection with the Provincial Teachers' Convention, held at Toronto University recently, the friends of Spelling Reform held meetings, at which four interesting addresses were delivered.

J. S. Lane, B. A., a modern-language specialist, reviewed the lines of reform pursued by the several European countries, save Portugal, which has now the worst spelling in the world, except English. The last official report of the French Minister of Education contains only about one-ninth as many irregularities as if it were printed in the French spelling of a dozen years ago. French still carries a heavy load of silent letters, but they are used consistently.

J. Dearness, M. A., reviewed the progress of the movement to improve English spelling during the past year. The British Society, headed by such men as Sir Wm. Ramsay, Sir James Murray, Dr. Henry Bradley, Right Hon. James Bryce, T. J. Macnamara, M. P.; Stanley Jevons, Prof. W. W. Skeat, and Wm. Archer, entered its second year with fine prospects of successful work.

Nova Scotia, as in some other matters educational, leads the Dominion. The pupils in its schools, and the teachers, are permitted to use the S. S. B. simplifications affecting about 3,300 words. Dalhousie University extends the same privilege to its students, and the Nova Scotia Normal College, the most important single training school in Canada, teaches the improved spelling, and prints its calendar in it.

Quite as satisfactory progress is taking place in the leading Normal Schools of the Middle Western States. The Simplified Spelling Board, among its 25,000 signers, numbers over 7,000 university professors, collegiate and other teachers.

The losses occasioned by our present spelling were set forth by William Metford, the chief one of which is that "it deprives English-speaking children, as compared with those learning reformed languages, of about one-fifth of the education they ought to receive in the public school. British superiority is more seriously threatened by English spelling than by German warships."

The situation in Ontario was the theme of Robert Alexander's paper. There is a disposition on the part of teachers and people to make cautious progress. The "our" of "honour," "labour," "barbour," etc., was decently buried in Ontario about ten years ago. The foolishness of bringing it out of the grave and forcing it on the present generation of school children can only be described as a crime. The order has produced a general feeling of dissatisfaction.

The Millionaires' Club.

The mercenariness of America has developed a thousand ways of "getting rich quick," from gold bricks, to the more matter-of-fact wheat-growing. In the former category was the "Millionaires' Club," of Council Bluffs, Iowa, one of the most unique and gigantic swindles ever perpetrated, with dupes scattered in nearly every quarter of the United States. In a small way, the principle of the game has been worked before, and on Canadians, too. "The Farmer's Advocate" recalls one case that came to light, in which a sporty "Canuck" was induced to take his "pile" to an American city to bet on a racing event that was "fixed" in his favor, but he left it there. It remained, however, for John C. Maybrow, and a band of about eighty associates, to reduce the game to a system, and on a scale commensurate with the name of the Club. In brief, the scheme was this: The Club, through its members, who were also its trusted agents, represented to intended victims who were discovered to be ready for any quick-money grab-game, that the club was composed of millionaires who were fond of encouraging horse-races, prize-fights, foot-races, wrestling combats, and so on. They did not know too much about these things, but were "easy," and ready to bet. When a fight or a race was arranged for the entertainment of these fictitious owners of millions, one of the victims would be advised that he was to be "let in," and came to a certain place to bet against the millionaire who backed the horse or fighter that was "fixed" to lose sure. The amounts were never less than \$2,500, but usually ranged from \$10,000 to \$37,000. The district attorney prosecuting has evidence to show that one Canadian "investor" was relieved of \$66,000. The Club usually took the money at the first haul, but sometimes lured the victim on. When the race or fight transpired, some "accident" always happened. The jockey on the horse that was to win for the victim fell off in a fit, and lost. In fights, one of the principals would go into the combat with a small bladder of blood in his mouth, and at a critical juncture he would receive a killing blow, and lie "senseless" on the floor, the blood spurting in streams. The victim was advised to run for the first train out of town, as they would all be arrested for murder. He would take fright and go, and the Club had his pile of money. Sometimes the victims, on returning home, would mortgage their property, and raise more money for another try at the game, but only to lose again. It is believed that the gang have within a year cleaned up about \$5,000,000 by their rascally operations, but finally fell into a trap on the charge of illegally using the mails, and landed in jail. A letter from one of their victims got into another man's post-office box at Council Bluffs, and soon all came to light. Arrests, criminal prosecutions and convictions followed. It is commonly thought that guileless innocence is the easy victim of sharks and swindlers, but the dupes of the "Millionaire Club" included all sorts and conditions of men, conspicuous among them being hardened gamblers and veteran crooks, whose cupidity overreached all the lessons of their own experience.



Saving a Man's Time.

(Photo by R. R. Sallows.)

HORSES.

Thoroughbred and Pure-bred.

Kindly tell me the difference between Thoroughbred and pure-bred, if any. J. S. New Brunswick.

Ans.—The dictionary defines "thoroughbred" as "bred from the best or purest blood or stock; of a breed kept pure for many generations, hence having the qualities of such breeding; high-spirited, courageous, elegantly-formed, etc." This definition draws no essential distinction between the meaning of "thoroughbred" and "pure-bred." Among stock-breeders, however, the term thoroughbred has come to be applied exclusively to the English running horse, which is the oldest and purest-bred of our common breeds of horses. Used in this sense, the term has acquired the significance of a proper name, just as Shorthorn has become the name of a certain breed of cattle, and the exclusive use of the name Thoroughbred is now no more a reflection on the purity of breeding of other horses than the use of the name Shorthorn is an imputation of length of horns possessed by other breeds. In fine point of metaphysics, the English race-horse has no special right to a monopoly of the name Thoroughbred, any more than the Shorthorn has a right to monopolize that term; but the names having been established by usage, it is in the interest of clearness to adhere

Treatment of Burns and Scalds.

Early last spring I visited a farmer near the United States boundary, and was requested to call upon a neighbor who had met with a serious accident the day before. While burning stubble, the fire got away, and he endeavored to check it with his plow, but was just too late, and, in making a sharp turn, one horse fell. In a second the four horses were a struggling mass in the midst of the dancing flames. The poor beasts were a pitiable sight, and I have often thought that I would like to tell readers of "The Farmer's Advocate" what to do to shorten the agony of their horses in such a case. Prairie fires are responsible for practically all the cases of burning among horses in the Canadian Northwest; but it matters little whether the cause is that of escaping steam or chemicals, the effects are practically the same.

We can readily distinguish three stages, or degrees: First, where there is simply a reddening of the skin; second, where blisters or vesicles have been produced; third, where some of the skin, and perhaps flesh, has been cooked, dried up, and its vitality destroyed.

All stages require immediate treatment, and the danger does not depend so much upon the depth of the burn as on the extent of its surface. There are millions of sensitive nerve-endings scattered over our bodies, and these are so close together that we cannot push a pin into our skin without touching one. Therefore, if we have a small but deep burn, comparatively few of these nerves may be injured, whereas a scorching of a large surface, though apparently only trivial, may affect many more nerves, and even produce a fatal result. The effects are not confined to the seat of injury, for almost immediately all the nerves in the body become excited from sympathy, and we have systematic results, shown by a shivering at first, which, however, we generally fail to notice. Then comes a coldness of the extremities. But probably the first thing we notice is weakness, a restlessness, and a difficulty in breathing. If we feel the pulse, we find that it is quickened, and if we take the temperature, we shall find some fever.

Now, whatever we are going to do in the way of treatment must be done at once. If the veterinary surgeon lives ten or twenty miles away, the poor beast may die from shock before he arrives. This shock is the first thing we must combat. At once give a good dose of whiskey in milk. Don't hesitate about it. Then proceed to apply something which will keep away the air from the injured part. Really, I believe it matters little what we use (within reason), providing we do it quickly. If the skin is not broken (and even if it is, it will do no harm), at once cover with an even mixture of equal parts of linseed oil and lime water. This is known as Carron oil, probably because it originated at the Carron Iron Works, in Scotland. Here the men were constantly being burned by the molten metal, and large quantities of this mixture were kept on hand for cases of emergency. Every reader of this will act wisely in procuring a bottle of this mixture at once, and keeping this for personal use in the house.

Having used this Carron oil, we have time to

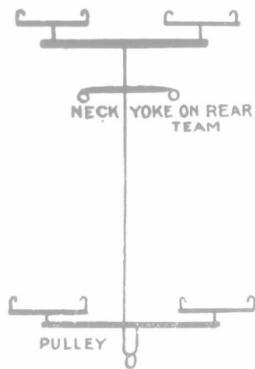


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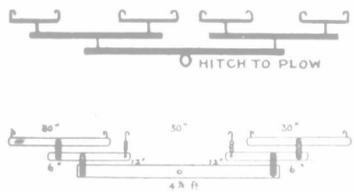
Hackney stallion, chestnut, foaled 1907. Junior champion, and reserve grand champion, London Hackney Show, 1910. Sire Polonius.

look round and think. If the burn is of the first or second class, and is confined to a scorching or reddening of the skin, with or without blisters, we can hope for success. Even if the destroyed skin does not cover too large a surface, we may still go on; but if a large surface of skin has been destroyed, we must ask ourselves if it will be worth while to continue the treatment, or would it be more merciful to put the poor beast out of its misery. You know that when a wound is healing, the scar contracts, and if this scar is large, of course the contraction will be large also. A very skillful veterinary surgeon could transplant some healthy skin into the large resulting sore, and produce a satisfactory result.

The position, also, of the burn must be taken into account. If it be in any part where there is much movement, such as around the shoulders and



Note.—Both teams are hitched to ends of chain, which passes through pulley.



elbows, it is very serious. In any case, if much skin is destroyed, you must expect some weeks, and perhaps months, to pass before recovery takes place. If you decide to go on with it, procure a good supply of the mixture recommended, and put it on freely. If you can cover the part with thin cotton soaked in this Carron oil, all the better. Renew this dressing frequently, and, if any blisters form, open them with a clean needle, but do not remove the skin. Later on you can change to some simple ointment, such as carbolic or zinc ointment.

Although I ask all to procure some Carron oil, many will not do so, and, when the accident occurs, they will, as usual, stand and wish. But in such cases we have no time to stand. Rush into the house, get some eggs, and cover the injured parts with the whites, then dust on flour, or chalk, or starch powder, or mix chalk and water to a cream, and cover the part repeatedly until a thick coat is formed, and get the veterinarian as soon as you can. If the skin cracks, or is destroyed, some would use a dry powder to dust on. Zinc oxide, with twice as much starch, is not bad, but iodoform, with equal quantity of boracic acid, is better, and one part iodoform to eight parts of tannic acid is still better. If you prefer, you can mix either of the latter into a salve with vaseline or lard. Probably this would be the better plan. Later on, say after a week, treat it as an ordinary wound.

In speaking of the above, I have been thinking mainly of burns produced by fires. If they are the result of chemicals, some other things must be thought about. For instance, say the cause was a mineral acid (sulphuric acid or oil of vitriol, nitric acid, muriatic acid, or hydrochloric acid). In this case, to add water, or anything containing water, we would produce more heat. What we want is something that will destroy, or neutralize, the acid. So, we would cover it at once with chalk, or even baking soda, and after the effervescing had ceased, we could wash all off, and treat as recommended before. If the cause has been some caustic substance, such as lye, it would be better to neutralize it with an acid, say vinegar.—[Dr. J. Fielding Cottrill, in "The Farmer's Advocate and Home Journal, Winnipeg.

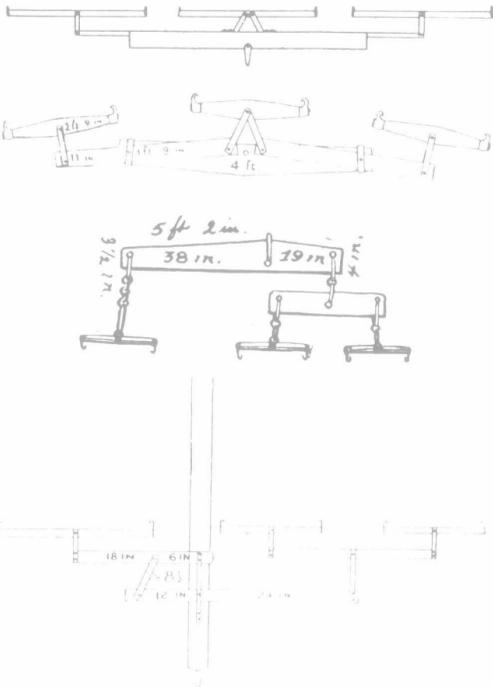
I am much interested in all sections of "The Farmer's Advocate," but am especially interested in the orcharding and fruit-growing columns. The article on the laying-out of an orchard was, I thought, very clearly explained both by descriptions and drawings.—[G. Yule, York Co., Ont.

Eveners for Three and Four Horses

Editor "The Farmer's Advocate":

Kindly let me know if there is a four-horse evener which may be used on a two-furrow plow, with tongue, having one horse in the furrow and other three on the land. If so, please make picture of same.

In response to the above query, we have thought best to publish a number of cuts of three- and four-horse eveners. We have not used or seen a four-abreast hitch that corresponds to W. Mc.'s request, but the four-in-hand arrangement represented by one of the illustrations has been commended by a correspondent. Where four horses are used abreast, one may be put on the plowed ground, and, if he is a fairly-smart horse, will walk up even with the rest.



Note.—This is not quite a true evener.

LIVE STOCK.

Crops for Sheep.

The wise shepherd, in planning his crops for the year, has regard to the needs of his flock. He recognizes the great advantage of providing not only a variety of foods, but a succession of succulent crops the season through. Bulletin No. 12, "Sheep Husbandry in Canada," published and issued free by the Live-stock Branch, at Ottawa, takes up this subject in a practical and thorough manner. Under special crops for sheep, it deals with clover, alfalfa, vetches, rape, cabbage, turnips, mangels, corn, and the several classes of grain. Each is treated separately in regard to method of cultivation and manner of feeding. Dealing with vetches, the bulletin says:

"Vetches, or tares, as they are also called, make excellent fodder for sheep, either as a soiling crop or as cured hay. This crop much resembles peas in habit of growth, and requires about the same kind of cultivation. Its vines are more slender than pea vines, and stand up better when grown with a stiff variety of oats. Vetches are grown extensively for sheep feed in Great Britain, and to some extent in Canada for the same purpose. The writer, while raising sheep, always grew a small area of tares with oats for soiling the show flock, and, in case of a shortage of clover, vetches were cured for hay. The crop being fine in vine and very leafy, is much relished by sheep, and constitutes a rich diet.

"Two varieties of vetches are grown for fodder. The common vetch is the chief sort cultivated, but the hairy variety is receiving some attention. The latter produces the heavier yield, but, so far, the seed, having to be imported, is very expensive, and few care to bother with it.

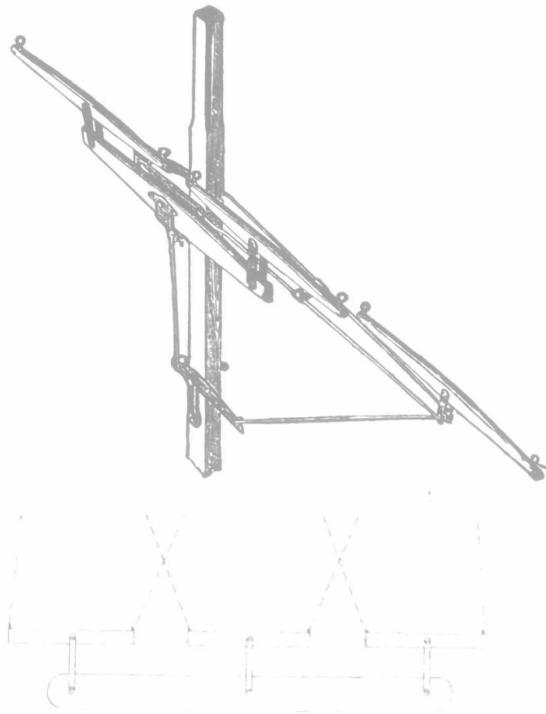
"The soil for vetches should be clean, mellow and rich. The seed may be sown in drills or broadcast. A good seeding for either soiling or hay is about three pecks of vetches and four pecks of oats per acre. The vetches are ready to feed any time after the crop comes into blossom, and before the seed commences to ripen. For soiling, the crop may be hauled to racks, or be distributed on the soil of a pasture field as soon as cut, or it may be allowed to wilt in the swath for a few hours. Vetch hay is made in much the same manner as clover or timothy is hauled. Vetches may be pastured by sheep, but

this is a wasteful practice, as much of the crop is destroyed by tramping."

Sheep-raisers who do not already possess a copy of this bulletin, would do well to order one from the Live-stock Commissioner, at Ottawa.

Dual-purpose Shorthorns Demanded by Economic Agriculture.

Economic necessity is an unyielding force which drives truth home in unmistakable fashion. The demand for more attention to the development of milking quality in our beef breeds is gathering support wherever earnest men are thinking intelligently upon the economics of meat production.



The idea that a cow can be profitably kept for a year on high-priced arable land, yielding as her sole return a calf for beefing purposes, and a few months' nurse for it, presupposes fabulous prices for beef, prices which cannot be permanently maintained, for the simple reason that good beef can be more cheaply produced with a dual-purpose stock; and if one breed does not meet this need, another presently will, as surely as water runs down hill. Those authorities and journals, therefore, which have been playing the part of candid friend, by pointing out the urgent importance of developing dual-purpose attributes, deserve the gratitude of every well-wisher of the better-milking beef breeds. One of the more tardy, but now quite insistent, champions of the dual-purpose idea, is the Breeder's Gazette, which, in commenting recently upon a remarkable record of milk-and-butter production in Pennsylvania, made by a Shorthorn cow, Rose of Glenside, that yielded in one year, in official test, 18,075.2 pounds of milk and 624.76 pounds of butter-fat, remarks that, "In the case of the record-breaking Rose of Glenside, the milking trait has been intensified to a marked degree without marring a satisfactory dual-purpose type. Hundreds of Shorthorn cows are excellent examples of the same blend of practical virtues.

"Milking Shorthorns that are equally useful for beef production are not idle myths; they are tangible money-makers, scattered throughout the country in pure-bred and grade herds. We have the unorganized foundation material in this country for the evolution of a beef-and-milk type of Shorthorn that would equal the best representatives of the type in England. It is well worth developing. It is demanded by economic agriculture in many parts of the country."

The marketing end of the meat trade of Western Canada is to be looked into by a commission appointed by the Manitoba Government at the request of representatives of the live-stock interests. The members of the commission are A. M. Campbell, of Hanlan; Stephen Benson, of Neepawa, and R. A. C. Manning, of Winnipeg. The purpose of the commission is to arrive at a solution of the present unsatisfactory conditions under which live stock raised in Western Canada is marketed. The question of open stock-yards and a public abattoir will receive special attention.

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Tamworth Swine.

Contrary to what most people imagine, we find that, among the improved breeds of swine, the Tamworth is one of the oldest established. Although of more recent introduction into Canada or American than others, we find that this breed of swine was introduced into England about the year 1812, by Sir Robert Peel, and were brought from Ireland during the time that he was secretary of that country for the Crown. His attention was first attracted by their distinct type, hardiness, easy-fleshing qualities, and superior quality of bacon. Among the peasant farmers of old Ireland, and noticing the affectionate relationship between Patrick and his favorite pig, Sir Robert was much interested in farming, and up to 1850, the time of his death, he kept this breed of hogs, which were called from that time the Tamworth. Under their better care and treatment,



A Typical Tamworth Sow.

they were much improved during this time, and soon became one of the established breeds of that shire or county he lived in, Tamworth, England, where they still are the most popular breed of that community. At the Royal Show, in England, they stand as one of the foremost breeds of the country, and it is no unusual occurrence to carry off the champion prize, competing against all breeds.

In just what year they were first brought to Canada we know no correct data. I find, according to the second volume of the Canadian Swine Record, the late John Bell, of Amber, Ont., was one of the first importers, and, I believe, the first exhibitor of the breed at the Toronto Exhibition, where they were much criticised and ridiculed. These were closely followed by an importation by James Calvert, of Theford, Ont. In the early nineties, we find Canada first woke up to the important opportunity of establishing a bacon trade with England, if the prime-quality hogs were produced. Previous to this, about the only demand for pork was in a local way, and to supply the lumber shanties: the heavier and fatter the hog, the better suited for the trade. The then popular prevailing breeds of the country, Berkshire, Poland-China, Chester White and Duroc Jersey, would not suit for this high-class trade. The Ingersoll Packing-house, in search of a breed that would produce a larger percentage of prime bacon hogs, learned of the special merits of the Tamworth, and they imported a large number of boars and sows, and had them placed in the hands of farmers in that district. This experiment proved most satisfactory, the result being that the breed rapidly became popular, and were soon scattered all over the Dominion, so that in a few years they outclassed all breeds at the great exhibitions. Among the pioneer Ontario exhibitors were J. C. Nichol, of Hubrey, and the Georges, of Crampton. The writer started breeding and importing in 1893. Later came Andrew Elliott, Galt; Norman Blain, St. George, Colwill Bros., Newcastle; R. O. Morrow, Hilton, and a host of others. Of more recent years, much credit is due to Douglass Bros., Mitchell; H. German, St. George; Chas. Currie, Morrison, and many others who were fast coming to the front and making grand exhibits at our large exhibitions. That the Tamworths have done much to revolutionize the correct type of bacon hogs in this country is beyond dispute by one who has been a close observer of the swine industry. A typical Tamworth hog is nearer the type of a model bacon pig than any other breed of swine in existence. Breeders of other swine have modified and modelled their breeds very much after some of the desirable points of the Tamworth. They are not only popular in Canada, but are fast becoming famous in the United States, rapidly replacing the lard hog in the corn belts, large numbers being shipped there from Canada and England for breeding purposes.

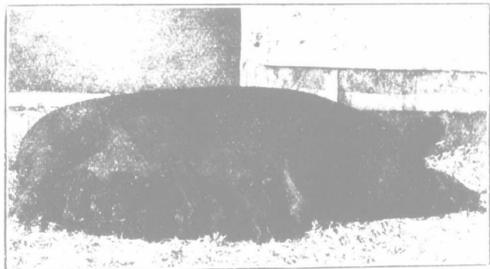
The form should show the type that is re-

quired for bacon production, which means a hog that is exceedingly light in offal, with a long, trim body, and especially very smoothly covered with firm flesh, indicating a desirable mixture of fat and lean. The head should be slim, a light jowl, the snout fine and not unduly long, the ear of appropriate size for the head, with the neck sharp between the ears, and light, swelling easily to cover a deep shoulder smoothly. Depth of shoulder is desirable, but without roughness. The shoulder should not bulge out beyond the body or the hips, as this detracts from the general appearance of trimness and smoothness which is so desirable. The back should be long and strong, with a gradually-rising arch over the shoulder to the loin, and then a correspondingly descending line from there to the root of the tail. Width of back is not demanded, but extreme smoothness and even covering of firm flesh is very essential. The ribs should drop as deep as possible, making the body appear, from the ribs, as if it had abundance of depth. The loin even with the shoulder and back well covered. Length of ham and gambrel is a peculiar feature which should be looked for: a long ham, firmly fleshed towards the hock, without folds of fat, is eminently desirable. The leading features of the type throughout are fair length and depth, with smoothness and trimness in all regions.

Objections.—Black spots, very light or ginger hair, curly coat, coarse mane, slouchy or drooping ears, turned-up snout, heavy shoulders, wrinkled skin, inbent knees, weak pasterns, hollowness of back and shoulders.

Tamworth swine are great rustlers, a splendid grazing pig. They mature early, grow to an enormous size at maturity, are very docile, good mothers, and raise large litters. According to many experiments conducted, the records show they produce pork as cheaply as the so-called lard hog, and of a much superior quality for commercial purposes.

I believe there is a great future for the Tamworth. Many who have tried them, and for some reason discontinued breeding them, are coming back again. I would very strongly recommend cross-breeding with other breeds. Where a good Tamworth boar is used on other breeds, we find



A Business Proposition.

some of the most desirable bacon hogs, not only best in type, but in economical and cheap production. I favor a Yorkshire-Tamworth cross; others claim equal or better results with Tamworth and Berkshire or Chester White crosses. I am fully convinced that, for pork only, a cross between two pure breeds will outgrow either breed, partaking more freely of the vigor of both breeds.

In conclusion, I would very strongly urge farmers to grow more pigs, and better ones, more suited for prime export bacon. It is a lamentable fact, but nevertheless true, that for many years there has not been such a scarcity, and through this we are in great danger of losing our well-established connection in England.

A. C. HALLMAN.

Fitting Stock for Sale.

Will you kindly favor me space in your valuable columns with an outline of method of feeding, feed, amount per meal, etc., to put horses, cattle, hogs, in shape for sale in least possible time. Through death of a brother, I am called upon to close up his estate, and the stock, though in fair flesh, are not in market shape; horses not groomed, nor cattle; hogs scruffy. There is plenty of oats, hay and straw on the place. I must say that, though a new subscriber, I enjoy your paper, and am sure to profit by it.

D. D. S.

Animals of any kind cannot be put into first-class condition in a short time. If we attempt to hurry matters too much, the chances are we may cause sickness, which will set them back further than the point from which we started, and may possibly result in loss. The information furnished by this inquirer is very indefinite. The amount of feed required by a horse will depend upon his weight, larger horses requiring more than smaller ones. It is not stated, either, whether these horses will be allowed to run idle, or whether they will be required to work, which will also make a very great difference. For idle

horses, weighing from 1,000 to 1,200 pounds, 12 to 15 pounds of oats per day should be a fairly liberal allowance. The oats should be divided into three feeds per day. We are assuming, of course, that it is important to increase the horses in condition as rapidly as possible, and, to do this, we must feed a fairly heavy ration, and must give the horses regular exercise. If the horses are allowed to stand in the stable, and an attempt is made to fatten them as you would fatten bullocks, the results will be very unsatisfactory. The horse must have daily exercise, along with liberal feeding, in order to put him into condition quickly and satisfactorily. Three or four times a week it would be well to give a feed of boiled oats in place of the dry oats, and a small handful of flaxseed added to the boiled oats given to each horse, would make an improvement. It must be remembered that the boiled oats are not fed in addition to the amount of oats recommended, but, on the days when boiled oats are fed, the horse would receive only two-thirds of the regular ration of uncooked grain, the remaining third being made up of boiled feed. If these horses have been fed very little grain up to the present, it would be unsafe to start with the full ration, as recommended. They should be started on a light ration, increased as the horses become accustomed to it. If they have been fairly liberally fed up to the present, then it would be quite safe to start in with the full amount stated. A turnip or mangel once a day will also be found beneficial. The hay ration should be of good quality, and rather limited in quantity. The feeder must use his judgment in this matter, and be sure that the horse is not kept with hay before him all the time, but is simply given what hay he requires. If it is impossible to hitch the horses every day to give them exercise, then they should be turned into a lot or yard for the purpose of getting exercise. The larger the lot, the better, as it will encourage the horses to move about more.

As to cattle, we are not told what kind of cattle they are, and it is difficult to cover all possible cases. If we suppose they are ordinary breeding cattle, a good meal ration could be made up of oats and bran. For fattening purposes, the addition of a certain amount of corn in the meal ration would be an improvement, though one could get along with a mixture of, say, three parts of oats to one part of bran. This makes a very safe meal ration, and a person might feed a pound of meal per day for every 100 pounds live weight of the animals, starting, of course, with a smaller quantity, and gradually coming up to the maximum. The addition of about a pound of oil cake per day to each animal's ration, will improve it. Nothing is said about roots, and, to get the best results, roots or silage would be a great help. A fairly liberal supply of roots, say from 40 to 50 pounds, to a full-grown animal per day, would make a very great improvement in the ration. The bulky part of the ration may consist of the best available hay, clover hay preferred.



A Yearling Tamworth.

As to hogs, nothing is said regarding their age. If they are very young, wheat middlings and skim milk would make about the best ration that could be used. A very few finely-ground oats could be mixed with the middlings to advantage. For pigs, say three months old, a mixture of about three parts of wheat middlings to one part of ground barley, combined with skim milk, would make a good ration. Almost any kind of grain could be combined with the middlings, and proportion of grain gradually increased as pigs grow older. The pigs must be allowed to regulate their own quantity, the feeder giving them only what they will eat up clean three times a day.

In the case of the horses and cattle, daily grooming will help to improve the appearance of the animals very much, and will also increase their thrift. As to the scurvy pigs, would advise greasing them all over with a mixture of raw linseed oil and sulphur, mixed in the proportion of

about two pounds of sulphur to a gallon of linseed oil. Some of the coal-tar sheep dips also answer very well for scurvy pigs, or a weak solution of creolin, say about two parts of creolin to one hundred parts of water. The quantities of grain for horses and cattle, as given above, are only approximations, and the feeder must use judgment in adapting the ration to individual cases.

O. A. C.

G. E. DAY.

Dairy Shorthorns in the West.

Farmers in the Prairie Provinces evince a keen interest in Dairy Shorthorns. Whether these cattle are called dual-purpose or Shorthorns of milking strain makes little difference to the man who wants a big, strong cow that will give a reasonable flow of milk and produce a calf that develops into one that can be fed to advantage.

Discussing prize-list changes, as proposed at Brandon recently, whereby there would be two distinct classes of Shorthorns at fairs, Stephen Benson, of Neepawa, expressed the opinion that there should be distinct prizes for beef and dairy types. "Show-ring breeding," said Mr. Benson, "is gradually transforming the Shorthorn to a beef type. At present, many Shorthorn herds in Canada and elsewhere stand low as milk producers—in fact, they cannot feed their own progeny."

"There is no satisfaction in trying to improve the milking qualities if the calves are allowed to stay with their dams. We must plan to feed skim milk. I have found it best to have heifers drop the first calf before they are two years old, and continue to milk for ten months or a year. Eighteen months should elapse before the second calf is dropped. This gives the young cow a chance to develop. With this treatment it takes longer to mature than if she were not bred so young, but the frame is large, and she is a most satisfactory dual-purpose animal."

"Those that do not give good promise at the end of the first milking period are sold. It is not difficult to discern those that tend to flesh from those that produce well at the pail. When married hired men are kept, and cottages provided, it is not difficult to make arrangements with the women to care for the calves, and also give special attention to young cows."

"Our calves are fed skim milk until they are six or seven months old. In fact, we work along the same lines as do breeders of dairy cattle. For the first year or two the calves get good care. It is difficult to get too much flesh on when the heifers are bred to freshen at about two years of age."

"Our experience indicates that it is not hard to have Shorthorns that do well as milk producers, and also produce a crop of calves that suit well for stable feeding."

Prof. W. H. Peters, of the Animal Husbandry Department, of Manitoba Agricultural College, has intimated to the students his intention of taking a team to Chicago this year to compete in the stock-judging contest.

THE FARM.

Fertilizers.—II.

(Continuation of address by Prof. W. P. Gamble, before Niagara District Fruit-growers' Association.)

APPLICATION OF FERTILIZERS.

On a soil containing large quantities of lime, use superphosphate as a top-dressing in the spring, and at the rate of 300 to 500 pounds per acre. On soils containing clay or humus, apply basic slag in the autumn, and at the rate of from 500 to 600 pounds per acre. In many cases, still better results follow if a moderate dose of basic slag be followed by an additional dressing of superphosphate in the spring. Avoid bones, unless finely ground. Use steamed bone flour for special purposes.

Nitrogenous manures must be used with great care, and their successful use depends on good judgment, and the provision of a simultaneous supply of potash and phosphates.

Plants grown for leaf and stem production, such as cabbages, asparagus, celery and rhubarb, can be liberally dressed with nitrate of soda in successive small doses, and, provided that phosphates have been applied, and there is no deficiency of potash, as much as 200 to 300 pounds of nitrate per acre can be applied profitably. A light dressing of nitrate in spring has been found of assistance to fruit trees at the time of setting the fruit.

Nitrate is injurious to the foliage of many garden plants, and to vegetables with flat leaves, but does not harm upstanding blades of grass. In applying nitrate to plants in active growth, care should be taken not to scatter it on the leaves.

Sulphate of ammonia is even more caustic to foliage than is nitrate, and requires careful sowing, but, as it is comparatively permanent in the soil, it can often be applied before the plants show leaf. Nitrate, however, has the preference for top-dressing purposes, where a prompt and practically instantaneous result is desired. In wet seasons the sulphate of ammonia may be used to advantage.

Caution.—It must be remembered, however, that it is an easy matter to put on several times the intended dose of commercial fertilizer, unless care be taken to regulate the amount. Excessive doses may, of course, result in killing the plant germ entirely, or in severely burning the growing plant. All fertilizers, therefore, must be carefully weighed, and the amount per acre applied should not exceed the quantity usually recommended. Chemical fertilizers, it must be remembered, are very concentrated forms of plant food, which may act as direct plant poisons when present in strong soil solution. The plant can only make use of food in a very diluted form, else the tender root-hairs and rootlets are destroyed.

In order to secure uniform distribution of chemical fertilizers, it has been frequently found advantageous to increase the bulk of material by mixing the fertilizer with dry earth, sand, or sifted wood ashes. This plan is especially to be recommended to beginners, for reasons already pointed out.

CULTIVATION ESSENTIAL.

Good cultivation, and all it means to the tiller of the soil, has for its chief end the maintenance of sweet and aerated tilth, in which soil organisms can grow and work freely. In order to secure this condition in general farm practice, it is not necessary to cultivate deeply, as agricultural plants have become accustomed to a shallower depth of tilled soil; but, for the garden, where the



Masculine Ovine Character.
Head of a Dorset ram.

produce is so much more valuable, and where such stringent conditions of cost of production do not obtain, deep and thorough tillage is essential. Fertilizers can only give their best returns when good cultivation is carried on at the same time; they cannot take its place.

In conclusion, every farmer or fruit-grower must be his own experimenter, and put questions to his soil. Only by conducting a series of small-plot experiments with fertilizers can he find out what his soil lacks, and thus he is enabled to supply it with the fertilizer which his soil stands most in need of, and from an application of which he will secure the most economical returns. He must also bear in mind the characteristics of crops, and profit by the experience of others in this connection. Thus, certain crops are found to respond to the action of nitrogen in the form of nitrate of soda, while others respond more readily to sulphate of ammonia.

PURCHASE OF FERTILIZERS.

It is usually far wiser, and also more economical to purchase the fertilizing ingredients needed singly, and to do the mixing at home, rather than to buy mixed fertilizers. It is also better to buy a high-grade fertilizer than a low-grade, for by doing so one saves the additional cost of packing, transportation, etc. It is more economical to purchase one ton of high-grade fertilizer than three tons of low grade. Remember, further, in purchasing, that the finer ground and the drier the substance be, the greater its value. Thus, the value of ground bone, bone dust, or ground rock phosphate, is largely dependent on the fineness of the particles. The finer the particles, the more available and readily soluble the material. The greater the amount of moisture, the less the amount of fertilizing ingredients.

Alfalfa.—III.

MAKING HAY, BREAKING, ETC.

Alfalfa may be cultivated, and when this is practiced, it gives good results. The surface soil becomes packed by machinery, the tramping of animals, and by heavy rains. This cultivating may be done by using a spike-tooth disk harrow regularly each spring. This opens up the soil, and allows the air to penetrate more freely to the roots, and it may also result in the destruction of some of the eggs and larvae of some of the insect enemies of the plant.

To destroy weeds which spring up the first season, the field should be clipped with a mower. This may also be done if a yellow rust attacks the leaves. Alfalfa fields should be kept free from animals in the winter, as trampling on the crowns of the plants will likely kill them if they are frozen.

Alfalfa should be cut for hay when it begins to bloom, and when the lower leaves have started to turn yellow, and when the buds are starting out from the base of the plant stems. This cutting should not be delayed, for at this time the plant has in it the greatest amount of nutrients. If it is allowed to stand longer, the stems become woody, and the leaves drop off. Thus, the hay is not as palatable, nutritious or digestible. If cut too soon, before the buds have set on the stems, the succeeding crop is sometimes injured.

If possible, the crop should be cut down within a week, if it is all ready at the same time; for, by thus doing, the hay is secured in the best possible condition, and the following crops will be benefited, as it will start to grow more quickly. After the alfalfa is cut, it should be closely watched, and just as soon as it shows signs of drying, it should be raked into windrows to cure. In rainy weather, it is better cocked up in small cocks. As soon as it is so dry that no moisture will exude from the stems of a wisp of hay when twisted, it may be drawn to the barn and put in the mows, or it may be stacked, if desired.

Alfalfa sod is extremely difficult to plow, owing to the number, the toughness, and the thickness of the roots. With poor implements, plowing is almost impossible. The plow used may be the same as used for any other plowing. That plow, however, should be in good repair, and the cutting edge or share should be sharp, or it will not cut off the roots. The sod should not be broken over three or four inches deep. If plowed too deeply, the roots will often contain enough life to start again. It is not usually best to plow, and cultivate directly the plowing is finished, but the furrow-slice should first be allowed to dry. The ground may then be worked with a spring-tooth cultivator.

Crops following alfalfa, if they have a good supply of moisture, usually make a very rank growth of stalk and foliage, due to the abundance of available nitrogen which has been stored up in the soil through the agency of the alfalfa bacteria.

Therefore, annual forage crops, such as millet, corn, sorghum and Kafir-corn, produce well after alfalfa. Wheat and other small grain crops should not, as a rule, follow alfalfa until the second or third year after breaking, for the best results in economical cropping.

O. A. C., Guelph.

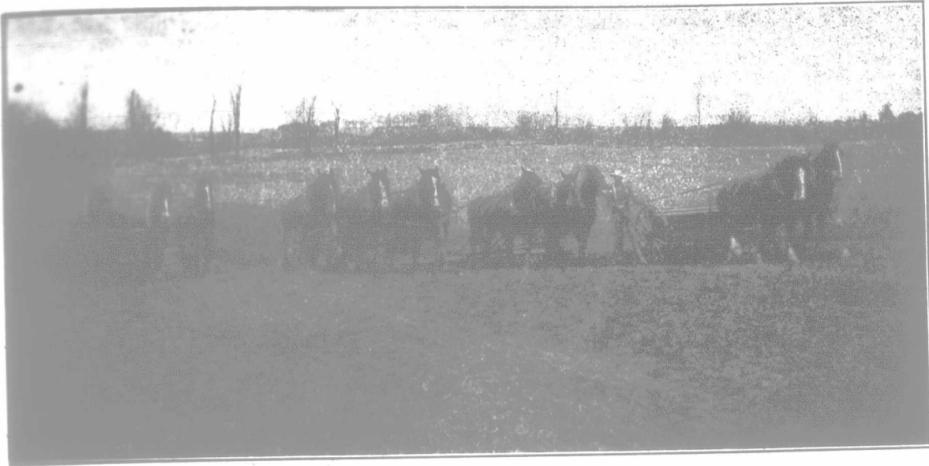
G. S. DUNKIN.

Concrete Bridge Failures.

There are not many failures of concrete bridges, but there have been some, and a discussion of the causes of these failures was the topic of a paper given at the Canadian Cement Convention by C. R. Young, C. E., Toronto. He had obtained data—and in many cases, photographs—of eleven of such failures, and, after careful analysis, his conclusion was that only in one instance was there fault to be found with the concrete itself. With this exception, in which the gravel used was slightly dirty, the materials were good, proportions correct, and work well done.

Six of the failures were ascribed to unsuitable or incorrect design of the foundations. The engineer's plan had, in one case, indeed, been changed by authority of the municipal council. The other five failures were due to improper design of the superstructure. No other result than breakdown need have been expected. With one, in especial, a concrete slab bridge, the concrete simply crushed; the amount of compression had been miscalculated.

A German paper, the Deutsche Tageszeitung, discussing the Canadian tariff agreement with that country, says: "Canada has indeed understood her position and secured her own interests very well. It is certain that the direct imports of flour and grain from there into Germany will increase largely. Without doubt, we shall have to reckon with Canada in future as a serious competitor to the farmers of Germany. It is a bad lookout for agriculture in this country." Exporters of fresh and dried Canadian fruits are counting on a decided revival of trade in those products with the Teutonic nation.



Spring Seeding in Ontario With a Rush. (Photo by R. R. Sallows.)

Seeding Thick and Even Thicker.

Editor "The Farmer's Advocate":

In your issue of March 24th, pages 491 and 492, Foyston Bros., Simcoe, Ont., misquote me, or else your reporter at the E. O. D. Convention got my figures wrongly, for if my memory of the matter is correct (and I must say my recollection of the matter and the manuscript I prepared for my address at Belleville agree), I gave not 12 pounds timothy, 9 pounds red clover, 3 pounds alsike, and 3 pounds alfalfa, per acre, but 12 to 20 pounds timothy, 9 to 12 pounds red clover, 3 to 5 pounds alsike, and 5 to 6 pounds alfalfa, per acre, as the right amount to sow.

However, the seeding suggested was intended to indicate what would be best to sow on a field that it was desired to pasture either the first or second year after seeding down. If not intended to pasture, the amount of seed might be reduced by about 20 per cent. As your correspondents state, the seeding at which they quote me would mean about two seeds per square inch. At the rate at which I recommend seeding, it would mean about three seeds per square inch. Whether sown thickly or thinly, a large number of seeds fail to make good as plants. My observations lead me to conclude that, even under most favorable conditions, from one-half to nine-tenths of the seed or plants perish inside of twelve months after seeding. At the lowest rate of loss, there would remain, say, 200 plants to the square foot, twelve months after seeding. This, I submit, is not too great a number, if properly distributed. To insure proper distribution and as good a catch as at all possible, we recommend the following system of seeding-down, the same having on various occasions proven very satisfactory here:

Prepare seed-bed thoroughly. Mix seeds carefully. Divide into two equal portions. Sow one part at same time as sowing grain, from grass-seeding attachment on seeder. Turn spouts to seed behind drill. Immediately after seeding grain and the half of the grass, sow the other half of grass seed crosswise. Harrow crosswise with a very light or tilting harrow. If soil is a little on the dry side, or in just right condition to seed (dust flying in small quantities), then roll right after harrowing. If soil is rather light, or very dry, roll twice, or weight roller. If soil is too damp to roll at seeding time, postpone rolling till grain stands 6 to 10 inches high. Or, if dry weather comes on when grain is from 4 to 8 inches high, it would be well to roll, even if rolled twice at time of seeding. The rolling at this stage breaks crust and makes a mulch which brightens crop up wonderfully. Be careful to protect stand of grass and clover from lodging grain. Cut the grain early, if necessary to insure safety of grass.

Now, why such seeding? Briefly, very much more hay, of much better quality. If you don't believe it, try it, being careful to give proper treatment all the way through. Moderately good soil, so handled and so seeded, will give, at Ottawa, from 4 to 6 tons of hay per acre per annum.

Further, this hay, as an article of food for animals, will be worth from 20 to 50 per cent. more per ton than hay from similar fields seeded at the rate of 8 pounds per acre.

J. H. GRISDALE, Agriculturist,
Central Experimental Farm.

[Note.—Upon inquiry, we learn that, in the interests of general credence, our representative, in reporting Mr. Grisdale's figures as to amount of grass seed to be used per acre, gave the minimum amounts recommended in the address. A note to that effect should have been inserted; but, if farmers would sow even the minimum, 28 pounds per acre, there would be fewer missed catches.—Editor.]

Complete Fertilizer for Potatoes.

Editor "The Farmer's Advocate":

Last season I conducted an experiment with fertilizers on potatoes, and thought that the results might be interesting to the readers of your paper. The land selected was a sandy loam, from which a crop of wheat had been taken the previous year, it having had a top-dressing of barnyard manure. I may say that this field was very bad with spear-grass. I plowed the land in the fall, and commenced to work it in the spring as soon as I could get on to it with the spring-tooth cultivator, and continued at this till June 1st. When the ground was cleared of grass, ready for planting, I marked the land with a horse-marker, 30 inches apart, and then sowed the potash and phosphate broadcast. The nitrate of soda was not applied to the crop till later. I then plowed out the furrows to a depth of three to four inches, and planted the potatoes about 12 to 15 inches apart in rows, and afterwards covered with the harrows, leaving the ground somewhat rough. Just as the potatoes were coming up, I smoothed down with harrows, this also killing the small weeds, and sowed half of the nitrate of soda, the balance being applied about two weeks later.

The experiment was conducted on three-quarters of an acre, the plots being one-quarter of an acre each. The three plots were fertilized as follows, in quantities per acre:

Plot No. 1—Unfertilized.

Plot No. 2—Sulphate of potash, 180 pounds; acid phosphate, 360 pounds; nitrate of soda, 140 pounds.

Plot No. 3—Acid phosphate, 360 pounds; nitrate of soda, 140 pounds.

Owing to the excessively dry season, I did not get as good results as I would have had in a normal season. Nevertheless, there was a marked difference in the yields and quality of the potatoes. Plot No. 2 (complete fertilizer) came up a few days ahead of Plot No. 3 (without potash), and all through the season you could easily tell

the difference by the foliage, it being of a much healthier appearance. The potatoes on both the fertilized plots were much freer from scab than the unfertilized plot, and were very dry and mealy. The yields on the various plots were as follows:

Plot No. 1—108½ bushels per acre.

Plot No. 2—160½ bushels per acre.

Plot No. 3—123 bushels per acre.

Plot No. 2 excelled Plot No. 1 in the yield of potatoes by 52 bushels, and was also ahead of Plot No. 3 by a good margin. The bugs did not affect the second plot (complete fertilizer) nearly so much as the others, owing, I think, to the rapid growth of this plot early in the season. In conclusion, I would say that, before you can take profitable crops off the land, you must return to the soil the plant-food substances that have been removed previously. Commercial fertilizers, used with barnyard manure, will do this.

Bruce Co., Ont. W. A. MITCHELL.

Removing Couch Grass.

Editor "The Farmer's Advocate":

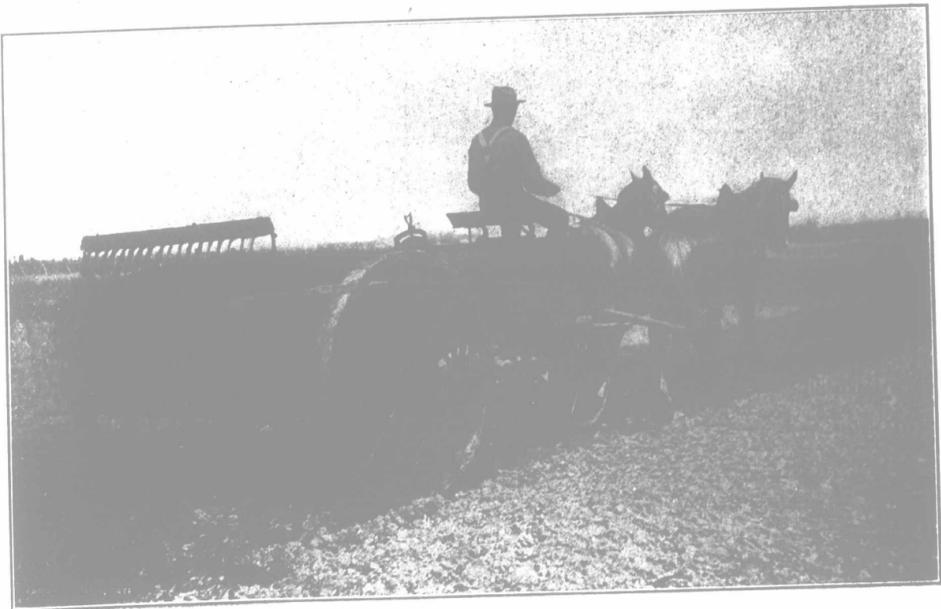
Our attention has been frequently attracted by inquiries in the agricultural press as to what manner of cultivation could be made use of to successfully rid the land of that crop-blighting nuisance commonly known as quack or twitch grass.

The farm we at present occupy was for a term of years rented to a gentleman who had tried in vain to rid a certain section of the farm of quack grass. Year after year this piece of land had been sown first with one kind of grain, then another, but always with much the same results, it being a rare streak of luck to harvest an amount of grain equal to the quantity sown.

The year we took possession, this piece of land was left till the other part of the farm was sown and planted, after which we set to work to try our hand with the quack, and were advised to plow not more than four or five inches deep, and cultivate thoroughly. A gang-plow was borrowed, and the land plowed narrow and shallow. The wagon was brought out, and the grass, being in blocks, was loaded directly on to it, and hauled to a stone pile. The remaining fragments were collected with smoothing harrows and garden rake, and also taken to stone pile to be air-dried, after which it was burned, the last operation being a deep and thorough plowing. Although it will soon be fourteen years since this piece of land was experimented on, there has not been a return of the quack.

The task was a very tedious one, but the results obtained have been of the most satisfactory character. We believe the reason our work proved so successful was our not using a cultivator, for, had we done so, the blocks of grass would have been torn to fragments, making work of gathering quack more difficult, besides scattering same over a larger area, thereby increasing the pest, instead of lessening it.

Should the grass appear again, we will let land lie for a season, and seed itself; then harrow following spring sufficiently to get it started well, top-dress with a medium coat of manure, till it reaches a matted state, then repeat operations as previously mentioned. If the quack grass on a field or farm has not reached a finely-matted form, try the plan just mentioned, according to your own judgment, and make the quack mat. In June, before it sets for seed a second time, plow



An Even Distributor of Soil Wealth. (Photo by R. R. Sallows.)

narrow, and only deep enough to raise mat clear of the bottom; cut in blocks, load on wagon, haul to stone pile, collect fragments with harrow and garden rake (not hay-rake, as some try to do), haul away, and pile with rest; let lay a few days to dry, then burn. Finally, plow deep, and probably your trouble for years to come is ended.

Stay on your farms. Apply yourselves diligently to the task. Bring industry, patience and perseverance to bear on your labor. Make the best of the talents God has given you, and, when you have honestly done your best, surely success is yours.

ONTARIO FARMER.
Victoria Co., Ont.

[Note.—This may be all right for small patches, but is too laborious and wasteful to be recommended for a large area.—Editor.]

Alfalfa in Prince Edward County.

Editor "The Farmer's Advocate":

Alfalfa was first grown in this vicinity about fifteen years ago. The first field of which the writer has any knowledge was a high, light, gravelly field, lying to the south, and naturally well drained. The yield has gradually decreased, until now the stand looks not unlike a field under process of reforestation.

About six or seven years ago my father purchased a few pounds of seed grown from this field, and sowed it upon about three-quarters of an acre of high, gravelly land, which was so light that we hardly ever plowed it. It had produced for a number of years a growth of wire-grass, and yielded practically nothing. The first crop of alfalfa from that land was as good as one could wish from the very best land. Not understanding just how to cure it, we allowed it to get too far advanced, however, before cutting, and it was followed by a week of rain, which rendered it very woody. The cattle relished it, however, though so poorly cured. To test it a little further, we bought enough seed at a seed store to sow about one-quarter of an acre near the barn, to cut for green feed. This was a deep soil, but wet and soggy, because of a spring which flowed along one side. The first crop gave us more feed than we had ever, perhaps, produced of any other hay off the same ground. The next year it was badly winter-killed, and grew more weeds than hay.

The next we seeded was one and three-quarters acres of very heavy clay, which lay on a ridge. This has given excellent satisfaction, though just on the top is a flat place which has killed out. The first year we had a good crop of hay, but did not cut the second time, though there was quite a good crop. The second year we harvested an excellent crop of hay, and, with the first piece which was seeded some years previous, and was getting thin, we had two bushels three pecks of fine seed, worth from \$10 to \$12 a bushel. This crop of seed was worth more than any of our grain off an equal area of land that year. This year, off those two plots of two and a half acres,

we had two loads of as fine hay as we ever cured, and one bushel of seed. The stand was very poor. Having had some experience in a small way with this valuable plant, we seeded this year six acres, three with barley, sowed one bushel to the acre, and three with buckwheat. Nearly two bushels of alfalfa was used on this six acres. To try early seeding, father sowed a narrow strip about the last night it froze in the early spring. This grew very well, though, of course, many weeds grew with it. Our impression is that it would do well seeded in the spring in fall wheat or rye. The buckwheat was sown thin about the first of July, and the alfalfa grew almost as fast as the nurse crop for two or three weeks. When we cut the buckwheat, the alfalfa was as large as that beside it grown with barley, which was sowed five weeks earlier. We have found, however, that it has heaved worse by frost this spring than that which was seeded with the barley.

Our cattle and horses relish alfalfa as they do no other food. Horses eat it, when well cured, even in preference to oats. We intend feeding it with other fodder, as we believe the animals will receive more good from it. It is a crop which, in this section, will take almost if not equal rank with corn in a few years. There is scarcely a farm that should not have a few acres of it. The only objection to it is the difficulty in curing some wet seasons, but if we were farming on a larger scale, we would increase our acreage much more, in spite of this objection.

One difficulty has confronted us, namely, that of procuring clean seed of any variety. A few years ago we bought a few bushels of seed grain from a reliable firm. We had to hand-pick all of it to get out the foul seed, of what kinds I cannot say. We also experienced the same trouble with grass seeds, but did not know of the presence of the weed seeds until they came up. It took us two years to get these spaded out. Since then we have bought no seed, but have grown our own, and intend following this plan. If a farmer has a clean farm, he will do well to grow his own seed.

CLAUDE C. WANNAMAKER.
Prince Edward Co., Ont.

Waterproofing of Concrete.

Concrete is porous, not absolutely waterproof or damp-proof, according to a paper read by R. A. Plumb, Chemist, Detroit, at the Cement Convention, lately held in London, Ont. The explanation was that the water with which concrete is mixed, being incompressible, leaves, on drying out, the tiny spaces which it had occupied. Many preparations for rendering concrete absolutely waterproof are on the market, but in most cases these may be said to be yet in the experimental stage. On the one hand, water-repellent powders, to be mixed in with the concrete, are offered, and there are also preparations to be applied as coatings after the wall is completed. In many important substructures and buildings of concrete, anything which would render them strictly water-

proof is greatly to be desired, and the progress made in producing such materials has been rapid and satisfactory. For most farm structures, a wash of pure cement and water, applied on the inside is sufficient for practical purposes. Mr. Plumb warned against using for surface coating any preparation containing linseed oil, as the vegetable oil will combine with the alkali of the concrete, forming a kind of soap, and making matters worse, instead of better.

Others Satisfied with Steel Silo.

In addition to the letters detailing experience with steel silos, which appeared in the issue of March 24th, the following has been received from D. A. Campbell, Perth Co., Ont. His opinion corresponds closely with that of the others who have used them. He makes note of one special feature of the steel silo in relation to the freezing of silage, that the heat of the sun will warm the steel sufficiently to cause the frozen silage to loosen from it.

Jas. Scroggie, of Brant Co., Ont., also writes in reference to steel silo. In his silo, opened lately, silage had kept well, with very little spoiled on top, and frozen only a little on the north side.

Editor "The Farmer's Advocate":

We are well satisfied with our silo so far. It was erected last fall, in size 12 x 35 feet, with a cement foundation under it about 3½ feet high. The foundation was built from blue print received from the manufacturers of the silo. We have no top on our silo so far, and have had no trouble with snow as yet. The silo cost \$4.75 a foot delivered in Stratford, with 10 per cent. off for cash, and freight extra. All told, I gave the manufacturers \$150, they supplying a man to erect it, and I to give him needed help. We put the silo up in three days, with four men working at it, their man, myself, and two men I hired at \$1.50 a day. We never had any experience with any other kind of silo, so cannot tell which is best. Our silage is just fine, and the cattle are very fond of it. As regards frost, the silage will freeze in any kind of silo if it is built outside. With regard to the steel, very little sun will loosen the frozen silage from the silo, it being thin. I think it loosens quicker than it would where there was a ten or six-inch cement wall. I cannot say how steel will last, compared with cement silos.

D. A. CAMPBELL.
Brant Co., Ont.

Editor "The Farmer's Advocate":

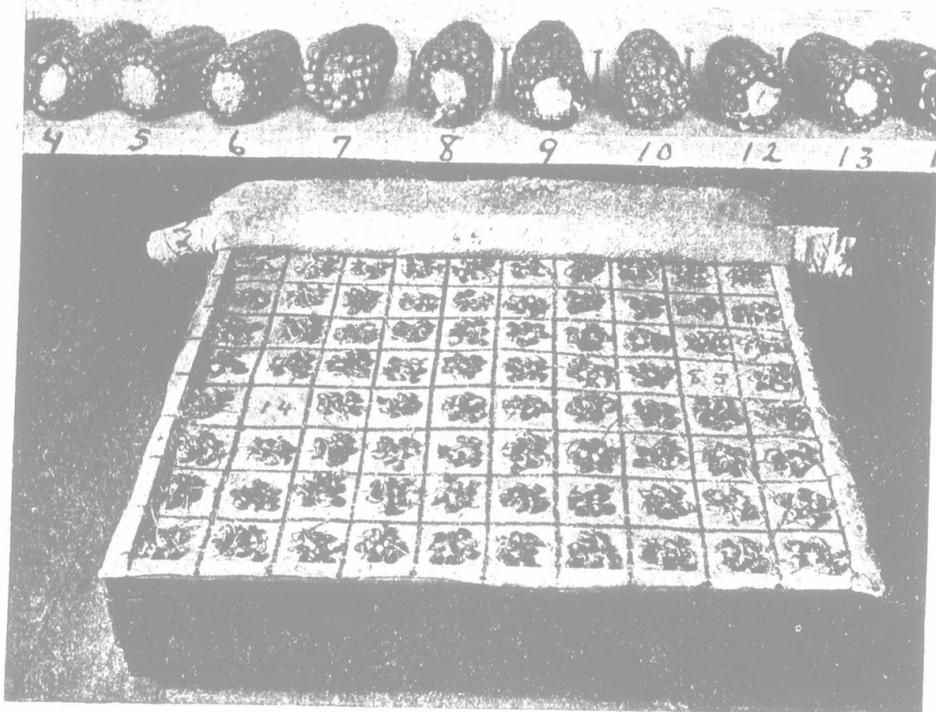
The dimensions of my steel silo are 12 x 30 feet, and it is built on a cement foundation, but has as yet no roof. The cost of the silo complete was \$140. I opened it a few days ago, and silage seemed to be keeping well, with very little spoiled on top. There was only a little of it frozen, and that on the north side. From what I have seen, I would advise any intending builders to construct a steel silo, in preference to any other kind.

JAS. SCROGGIE.
Brant Co., Ont.

Broom Corn Grown in Norfolk Co.

Editor "The Farmer's Advocate":

The questions that appeared in your paper of March 24th, in regard to the growing of broom corn, must have been answered by either an American grower, or someone interested in the American trade. If one were to follow those instructions, he would surely fail. I have grown broom corn now for two years back, and will grow some every year that I farm, and would say it can be grown successfully where corn can be grown. It has been grown in Norfolk County for over forty years, some persons sowing as high as ten acres per year. In the first place, sow as soon as the ground is warm enough to promote growth, in drills 2½ to 3½ feet apart, and, after it is up an inch or so, thin out, leaving only one plant every sixteen inches in the row. Then give the same treatment as corn. When the seeds turn a reddish color, it should be harvested. To harvest cut off the stock just above the first joint, leaving the stub of the brush as long as possible, and throw in piles; then catch the brush in one hand, and pull the leaf off with the other, throwing in separate piles. The cattle will eat the leaves. Then spread the brush on racks, or on straw, to cure. Care should be taken to prevent moulding until dry enough to remove the seed. The seed can be taken off either by a vise or cylinder. I would prefer the latter. Then tie up in bundles, and lay away until sold, or made up. Any factory will buy the brush, and pay according to the quality and the scarcity of corn in the States. The earlier it is sown, the longer the growth of the corn. My brother and I had about seven-eighths of an acre last year, and I know we were not over eight days planting, harvesting and threshing it. We made our own brooms, some 400, and realized an average of 50 cents each last winter, corn being scarce last year. I would



Good Method of Testing Seed Corn.

Each ear is numbered, and ten kernels taken from it and placed in corresponding numbered check in the germinating box, which is filled with sand. By results in the germinating test, the grower may learn which ears show the strongest vitality. It is important to reject not only ears that are unable to produce plants, but ears that will not produce vigorous plants.

say that the seed can be fed to stock in the same proportions as flaxseed. MACK. CULVER. Norfolk Co., Ont.

[Note.—Our correspondent is correct in his surmise that the answer regarding broom corn was based chiefly on information from American sources, being principally drawn from a bulletin on the subject by the United States Department of Agriculture. It is interesting to learn that broom corn is still being produced in Canada commercially, in a small way. As for cultural directions, while those given by Mr. Culver differ somewhat from the American instructions, notably as to the thickness of the stand advised, still we fail to see that the directions were misleading in other respects, and may add that the publications of the United States Department of Agriculture are among the most reliable popular agricultural works issued from any source. A letter from a Canadian grower is, however, very welcome.—Editor.]

THE DAIRY.

Plant Sweet Corn for the Cows.

Editor "The Farmer's Advocate":

There is nothing more profitable to a farmer with a few cows than a few acres of sweet corn, to be cut and fed in late summer and early autumn. Many have to commence to feed hay then that should be kept for next spring. The hot, dry months of summer leave the pastures shortest at the above season of the year, and they should be supplemented by some succulent feed. The sweet corn should be planted early in hills or very thin in drills. Too many plant or sow it too thickly, and have only the fodder to feed, which is only a coarse grass; better to plant it thinly, and have a good rich feed. I always grow a little for my cows, and plant it adjacent to pasture, or along the lane fence, where it can be cut daily and thrown to cattle, with little labor; and I believe that one acre planted this way will yield as much feed as two or three acres in any other crop. J. O. DUKE.

Essex Co., Ont.

Saving at the Spigot, and—!

The New York Produce Review publishes a letter from H. E. Van Norman, Professor of Dairy Husbandry at the Pennsylvania State College, in which he tells of a creamery in his State that let a good buttermaker go, rather than raise his salary from \$50 a month to \$60. A new maker was hired, who ran the overrun down so low that the creamery lost \$735 in one month. The former maker was brought back the next month, and restored the overrun to its former percentage. This year he is to receive fifty per cent. more salary than he did before his efficiency was realized. In contrast to this instance, we are told of another creamery where a buttermaker, who had done much for the general agricultural advancement of the community, asked for an increase. The manager demurred. The patrons heard of his reluctance, and the result was that the manager was dismissed, while the buttermaker got his increase. The patrons of this creamery evidently believed in rewarding effort, and realized that keeping down wages is not always the best way to make money.

O. A. C. Dairy-school Examinations

The following is the proficiency list in the examinations at the O. A. C. Dairy School:

1, H. W. Coleman, Inkerman, Dundas Co., Ont., 1,051; 2, Gilbert Rickwood, Beachville, Oxford Co., Ont., 1,001; 3, H. N. Carr, Port Credit, Peel Co., Ont., 976; 4, T. J. Scott, Warton, Bruce Co., Ont., 937; 5, S. E. Eflinger, Selkirk, Haldimand Co., Ont., 904; 6, N. S. Neville, Nilestown, Middlesex Co., Ont., 903; 7, J. G. A. McEwan, Hollen, Wellington Co., Ont., 902; 8, G. Bain, Thamesford, Oxford Co., Ont., and Wm. Morse, Carlingford, Perth Co., Ont., 882; 10, W. J. Halward, Cannington, Ontario Co., Ont., 857; 11, Lewis Roloson, Bayham, Elgin Co., Ont., 840; 12, W. M. Reed, Elmer, N. J., U. S. A., 838; 13, J. L. Hastings, Chesterfield, Oxford Co., Ont., 832; 14, S. B. Curtis, Addison, Leeds Co., Ont., and George Jaques, Winchelsea, Huron Co., Ont., 797; 16, H. A. Higgins, Inwood, Lambton Co., Ont., 768; 17, E. W. Packard, Brockton, Mass., U. S. A., 738; 18, R. S. Greybell, Burnaby, Welland Co., Ont., 721; 19, Hugh Smith, Springfield, Elgin Co., Ont., 717; 20, O. Ostrander, Rockwood, Wellington Co., Ont., 713; 21, C. G. Palmer, Wardsville, Elgin Co., Ont., 683; 22, F. R. Harrild, Nelson, Halton Co., Ont., 681; 23, E. M. Armstrong, Fordwich, Huron Co., Ont., 651; 24, M. Calder, Bright, Oxford Co., Ont., 635; 25, Eddie Diebel, Hampden, Grey Co., Ont., 631; 26, R. R. Gale, Sebringville, Perth Co., Ont., 630; 27, H. J. Fletcher, Norwich, Oxford Co., Ont., 615; 28, J. P. Allison, Inwood, Lambton Co., Ont., 521; 29, J. E. Fick, Springfield, Elgin Co., Ont., 515; 30, Peter Valad, Riversdale, Bruce Co., Ont., 508. Maximum marks, 1,200.

Farm Dairy.—1, Chas. Mullenix, Lebanon, Ohio, U. S. A., 624; 2, G. M. Dale, Palermo, Halton Co., Ont., 345. Maximum marks, 800.

With regard to an item in "The Farmer's Advocate" last month, noting the resignation of Mr. Ralph from the O. A. C. staff, a word of explanation is in order, in justice to his successor, Mr. McKay, who has for some years past been Cheese Instructor in the Dairy School, serving during the summer as one of the field instructors of the Western Ontario instruction staff. Mr. Ralph was known in the College Calendar as Demonstrator in Cheesemaking, but in the Dairy School his position was that of Assistant Cheese Instructor. The latter office has now been abolished, Mr. McKay taking Mr. Ralph's place on the permanent College staff, and retaining his former position as Cheese Instructor in the Dairy School.

APIARY.

Elementary Instructions in Bee-keeping.—III.

The lives of worker bees begin the same as those of queens. They are fed for about the same length of time in their larval state, but they are in sealed cells longer. Under the right conditions, they emerge from the cells in about 21 days from the time the eggs are laid, instead of sixteen days, as with queens. Worker larvae, also, are fed different "pap" from that given queen larvae. It is considered less concentrated. This, and the different size of the cells in which worker

bees develop, make them a different bee from the queens, though the eggs are said to be the same. For the first six days of their life workers do inside the hive work only; that is, under normal conditions. Their duties are "wax-secreting," as it is called, and comb-building, and ventilating the hive when necessary, assisting in ripening the honey, preparing "pap," and feeding larvae, and other duties.

When acting as "nurse" bees, they predigest a mixture of pollen and honey, and deposit this milky feed into cells containing larvae. Pollen, the dust gathered by field bees from flowers, is absolutely necessary for preparing this larval feed. Pollen, after some modification by the bees, is what our grandfathers termed "bee-bread."

After the worker bees leave the hives their great life-work commences. Flying from flower to flower, they add to the tiny load of nectar in their honey-stomachs, until there is no room for more. Then, with their powerful wings, that a wise Providence has given them, they hasten homeward to unload the precious sweet, and gather more while the flow lasts, for in a few days the flowers may cease to secrete nectar. When a heavy nectar flow is on, the worker bees will tremble, seemingly, with nervous energy, as though, like the gambler at the table, fearing the loss of a great stake. Some consider that they pant as a person out of breath.

But, alas! how soon ends their useful life. Only six to eight weeks before a downy bee, just emerged from the cell; to-day a veteran, with torn and ragged wings—not placed on the pension list to pass its last days in tranquility, but mercilessly dragged from the hive by its younger mates, as no longer of any economic use in the great industrious laboratory of the hive.

The age or longevity of the workers is what often puzzles beginners. It appears incredible that the workers live such a short time. I once read a newspaper report that a certain feminine beekeeper had bees fifteen years old, as for so many years the bees had been in the same log-gum without once dying out. Now, the fact is, the worker bees of this season do not live for another season's labor. During the fall, winter and spring months, when the bees are comparatively inactive, they will live for five or six months, but when hard at work gathering nectar, their life is so shortened that they live, on an average, to be but six to eight weeks old.

We can now better comprehend why nature has endowed queens with the egg-laying powers they possess. As the ranks of the workers are so constantly thinned, it is necessary that there should be an adequate number of recruits. If this were not the case, a hive would in time become depopulated.

Some colonies will carry away their dead comrades from the hives; others, when weather is adverse, will let them accumulate in front of the hive stands. This sometimes frightens beginners. A person to whom I had sold a colony once came to me and anxiously explained that his bees were dying off by the hundreds. I took him into my apiary, and soon made plain that conditions of his colony were normal.

To briefly consider drones, they are the "papa" bees, or, at least, those that fertilize queens are "papas." This is, so far as known, their only use in hive economy. When they are no longer needed, the worker bees dispose of them, by driving them from the hives and refusing them life-



Ayrshire Cow, Floss of Glenhurst —9947—, and Her Five Daughters.
In dispersion sale of the Glenhurst herd of James Benning, Williamstown, Ont., to take place April 20th, as advertised.

sustenance. They are not wintered over, except sometimes when there has been a flow of honey late in the fall, or if the colony is queenless, but make their appearance in this locality about at swarming time, though in some places, I am told, six to eight weeks before swarming, and stay about till nectar-gathering ceases. They are reared in drone cells, which are larger than worker cells, and emerge from the cells in about twenty-four days from the time the eggs are laid. As drones consume much honey, their production should be curtailed. F. A. STROSCHIN.
Wisconsin.

POULTRY.

Danish Egg Circles.

The local branches of the Danish Co-operative Egg Associations are called "Circles."

Members are accepted on application to the officers of the "circle." They pay 13.5 cents each as a fee to the main association, and are under the laws of the "circle."

Members have to deliver all eggs produced by their hens—home consumption, setting eggs, and accidentally-found ones, excepted—in the manner and on the days decided on by the officers of the "circle." This obligation holds good for one calendar year at a time. No eggs older than 7 days may be delivered; no eggs of this rule, as well as the delivery of stale eggs, is punished by a fine of \$1.35, imposed by the directors of the co-operative association (main association), and may be increased to \$2.70. One-half of the fine goes to the main association, and the other half to the "circle" in question. The decision of the main directors—irrespective of that of the "circle" directors or of the egg-collector—cannot be appealed. In case of a suit for the collection of the fine, the party sued will have to pay the costs.

The eggs must be carefully collected every day, and in the hot season, twice a day at least. Artificial eggs only may be used as nest eggs, and the hens must be kept from the nests during the night.

Only clean eggs may be delivered, and they must be kept protected against the sun, rain and frost by the members, as well as by the collector.

The members may only deliver eggs to the "circle" from their own hens; transgression of this rule leads to a fine of 6.75 cents for the first time and 13.5 cents the second time per pound of any such unauthorized deliveries.

The membership list of the "circle" must show the number, the name and position of each member, and the number on the list must be the same as that with which he stamps his eggs. Changes in the list must be reported by the "circle" chairman to the main office. Every member receives—on payment of 5.4 cents—a rubber stamp with ink and pad. The number of the "circle," as well as that of the member, appears on this stamp, and each egg must be stamped plainly and neatly on the big end. The egg collector can only accept eggs which are clean and plainly and neatly stamped. The "circle" directors may temporarily refuse to accept eggs from a member, and a member may be expelled by a majority vote at a general meeting or by the main directors.

The necessary capital for paying cash on delivery of the eggs of the members is provided by a loan, the members of the circle becoming responsible for this loan, which is paid to the egg collector, who has to provide a satisfactory bond.

The eggs are paid for on receipt at "the price set by the circle" directors. Whatever more the eggs may net is only paid to the members after retaining a suitable amount for the working capital according to the views of the "circle" directors.

Notice of withdrawal is given to the "circle" directors, but only so as to take effect at the end of the business year. Withdrawn or expelled members have no claim on surplus reserve fund or other assets of the "circle," and they have to return their stamp without compensation, to the "circle" chairman. The board of directors of the circle consists of an uneven number of members, and they are elected at the general meeting. They take care of the business of the "circle" in the best manner possible, seeing to it that the eggs are delivered to the association in the condition demanded. The "circle" directors appoint and discharge the egg collector and other employees of the "circle," determine their compensation and supervise their work. The pay is generally 27 cents per 100 eggs for collecting.

The general meeting elects annually two auditors, who audit the year's account before the end of January the following year. The regular annual meeting is held in the first part of February, in time for eventual suggestions to the main directors, to be submitted to their chairman before February 20th. The "circle" sends a delegate to the general meeting of the main association. In case of an eventual dissolution of the "circle," any possible surplus—after settling all liabilities—is to be divided among the members in proportion to the eggs delivered by them during the last year.

Formerly, the main office (directors) printed the weekly quotations to be paid by the circles, but now they are mailed every week privately. The delegates from the circles at the annual meeting of the main association elect a "representation" of seven members, four of these, with a chairman from the board of directors, the former being elected for two years at a time, the latter for five years. An executive committee is formed by the chairman, the manager and one member.

Judging by a good deal of experience with patrons of co-operative cheese factories, so-called, and pork-packing establishments in Canada, perhaps the most troublesome snag in the foregoing regulations, which have proved so effective in Denmark, is the one in which the members of the Circles bind themselves to deliver all their eggs. Canadians will need to get over some of their go-as-you-please independence in order to make that rule effective. It is the crux of the situation, if a permanent business on that plan is to be developed. Pending co-operative organization, egg-producers, for their own benefit, should at once begin putting into effect the working regulations of the Circles regarding the gathering and care of eggs.

Geese and Goose Eggs.

Editor "The Farmer's Advocate":

In your issue of March 31st I noticed an inquiry as to keeping goose eggs, and making a nest, so will give my experience, hoping it will be of benefit to someone. Geese should be mated in the fall, and, if warmly housed, will start laying in March. Care should be taken not to feed too much grain, as they will be too fat, and the result will be weak shells and weak goslings.

For nests, turn a barrel on its side, or a box in a corner, where the stock cannot tramp them, and let the goose hatch where she lays. Leave

the first egg in the nest, and mark it with a pencil, and leave it for a nest-egg—the first egg seldom hatches, anyway—and gather the rest of the eggs as soon as laid, to prevent them from being chilled. Put them in a box or basket in some cut straw or bran in the pantry, or any place where they will not chill, and turn them once a day until they are to be set. I generally set the first clutch of eggs under hens, and, when the goose wants to hatch, shut her up for a few days, and she will lay again; set her the next time. When she has the nest well feathered, she is ready for setting. L. A. L.
Lambton Co., Ont.

Editor "The Farmer's Advocate":

In reply to R. C. M.'s inquiry, how to keep goose eggs until the goose sets, I have always had very good luck by putting them in a basket, with a piece of cloth between each to keep them from touching, and turn them over every other day. In regards to the nest, put some straw in the pen, hollow out a shallow hole, and the goose will do the rest. SUBSCRIBER.

GARDEN & ORCHARD.

The Spray Outfit.

Lightness, ease of manipulation, and efficiency, are three of the essential points in a spray outfit. Most of the orchards of the Annapolis Valley are too small to render a power sprayer necessary, so the hand-sprayer, with a 40-gallon cask, is the one most in evidence. These are carried around the orchard in all sorts of ways, from being mounted on stone-boats, with one horse dragging them, to large, four-wheeled farm wagons and two horses.

At Belvoir we have developed or evolved a contrivance of which we grow fonder with experience. Some idea may be gained of it from the accompanying illustration. The overseer on the horse's back is not always necessary, but the whole thing is so compact that it can be put "in a nutshell."

Beginning at the horse, we have a wire muzzle over the nose, to keep him from moving about eating grass or ends of limbs. This is better than a check, since it admits of more freedom of movement of the neck. A rug, made of a couple of bran bags ripped open, and sewed together, covers the whole horse and harness. The cart has a drop-axle. This allows the outfit to go under any limb that the horse can get under. Another advantage of the low axle is that, swinging, as it does, below the line of wheel centers, there is less tendency to tip forward or back, there is less strain on the girths, less annoyance to the horse and man on the platform, and is steadier in every way than a high cart with a straight axle. The wheels are 54 inches high, thus going over rough land more easily and steadily than smaller ones, while the 3½-inch tires are good for soft ground.

The cask in this case holds 60 gallons, but a 1,200-pound horse can handle an 80-gallon cask easily enough. Of course, the larger the cask, the less time wasted refilling, and travelling from the house to orchard, etc. The cask is surrounded by a two-foot-wide platform, extending to the wheels. Standing on this platform, the operator is almost four feet from the ground, and he can walk all around the cask, or stand on top of it, if necessary. For trees less than twenty feet in height, I prefer to stand on the ground, since I can walk around the tree, and do a more thorough job than standing on the platform. In any rig I would only use the platform for trees too high to reach from the ground. The guards on the edge of the platform serve the double purpose of steadying the operator while on the platform, and keeping the hose off the wheels while walking around the tree. They also keep the hose from being drawn under the wheels when the team moves head. I have tried all lengths of hose, from 10 to 25 feet, and I consider the most convenient length with such a rig is about 15 feet. This is enough to get around any tree, for you can only spray little more than one-half a tree at one time, on account of wind, and more would be getting under your feet. I consider a wide-spread Y, with two nozzles, sufficient for this size outfit. As the spray leaves the nozzle in the form of an inverted cone, if the nozzles are parallel, or nearly so, the inside spray tends to meet or condense, and lose force, and thus waste, while, if the direction of the nozzles is widely diverse, this waste is not as likely to occur.

Annapolis Co., N. S. R. J. MESSENGER.



A Nova Scotia Spraying Outfit.

Spraying Directions by a Practical Orchardist.

While "The Farmer's Advocate" does not make a practice of reporting local meetings, the timeliness of some of the points discussed at the Fruit Institute, at Lambeth, and the fact that this gathering was held under its own auspices, warrant publication of a few points gleaned from the addresses.

"So far as returns are concerned," said Mr. Johnson, "there is no comparison between fruit-growing and general farming. As instances of exceptional results, let me mention a few cases that have come to my notice. Two years ago I met a friend in Toronto, who said he had sold \$1,600 worth of fruit from an acre of cherry orchard. In one of our orchards at home, from which we used to get about 200, 300 and, sometimes, 400 barrels of apples a year, we have, since spraying, secured crops of 2,800 barrels in 1908, and 2,300 in 1909. The trees used to bloom, but the fruit would drop off; what remained, was mostly defective. Now it is clean, and nets us several thousand dollars a year. Another man in Lambton County, who belongs to our co-operative association, since he started taking care of his orchard, has, in five years, made \$3,000 from 3 1/2 acres of orchard. Cultivation, pruning and spraying are essential for good returns in orchard practice. What would you think of a man who would grow a crop of potatoes, and let the bugs eat them? The man who grows fruit and does not spray is doing something just like that. All kinds of insects, sucking and eating, are preying on the crops.

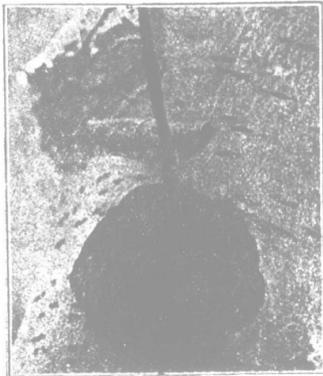
"Our practice in spraying was, in the past, to put on three applications, the first just before the buds opened, with Bordeaux, the second just as the blossoms fall, and the other one two or three weeks later. We have been using the Bordeaux mixture in the past, and have had excellent results with it, but this year we are going to use lime-sulphur mixture right through, home-boiled for the first application, and commercial lime-sulphur for the other two. For a man with a small orchard, or for a beginner, the commercial lime-sulphur is to be recommended for all the spraying, instead of home-boiled. For the first application, just as the leaf-buds are ready to burst, no poison will be needed, and if the commercial lime-sulphur mixture is used, it should be applied in the strength of one to eleven parts of water. The second application should be made just immediately after the blossoms fall, while the apple is standing upright on its stem, with the calyx cup spread wide open. Practically all the first brood of the codling-moth larvae or worms enter here, and eat out the blossom end of the apple first, and enter into the fruit. If this calyx cup is filled with poison, the worm is destroyed before it can do any harm. Any one of several poisons may be used for this spraying (along with the lime-sulphur, which is applied in the strength of one to thirty-five). We are using arsenite of lime, but for a beginner I would recommend lead arsenate, two pounds to the barrel. Paris green is not considered safe to use with the lime-sulphur mixture, but is all right to apply with Bordeaux. Drench the trees thoroughly at this spraying. One man, who started to spray, came to me once, complaining that he could get no results from spraying. He said he had sprayed thoroughly, putting three barrels on his orchard. On inquiry, I found out that his orchard was about the same size as one of ours on which we used 30 barrels. One barrel should be expected to cover about 8 to 10 ordinary-sized trees. Use good pressure, and drench the trees thoroughly. For the third application, made two or three weeks after the blossoms fall, the same material should be used as for the second."

Readers will note that these instructions differ slightly from those given by Mr. Caesar in our Spray Calendar, but either may be followed with confidence. In regard to the question why he was discarding the Bordeaux-and-Paris-green mixture, which had given such good results, in favor of the lime-sulphur, Mr. Johnson explained that it was chiefly to avoid russetting, which the Bordeaux mixture is liable to cause, thus preventing the perfect coloring of the fruit. Bordeaux will insure quantity and quality of fruit, but not as good a color as lime-sulphur will. The lime-sulphur has also an insecticidal virtue, destroying some of the sucking insects which Bordeaux and poison will not touch.

AN EXPERIMENT IN SPRAYING.

Last year, for experiment, we took a Snow-apple tree; one part of it was sprayed four times with the usual formulas; one part was sprayed only one, with Bordeaux, before the leaves came out; the remainder of the tree was not sprayed at all. This unsprayed portion produced a crop of practically no value; the part sprayed once had little scab, but any number of worms; the part sprayed four times bore fine fruit, with practically no worms, but all the apples were quite russety. This russet is not always present on apples sprayed with Bordeaux mixture, but it quite often is, and no modification of the mixture has been

found to certainly prevent it. In applying the spray, spray with the wind, and stop at least six times at every tree, better eight times; that is, four times on each side. When you approach the tree and spray it quite thoroughly from one angle, until it looks all wet, you will find, upon going a little farther, and viewing the tree from a different angle, it will look as though it had hardly been sprayed at all. Be sure that the whole tree is well covered with the spray.



Bacterial Blight.

Typical blight canker at the base of a water sprout on the main limb of an apple tree, O. A. C. orchard. The water sprout had been inoculated by aphids coming to it from a diseased tree.

Bacterial Blight.

Fire Blight, Twig Blight, Pear Blight, are different names of one disease which attacks pear, apple and quince trees in nearly all parts of Canada and the United States, where these fruits are cultivated. Many of our older readers will remember the time when it was first observed in their particular districts. The suddenness of its



Bacterial Blight.

Apple twig with two blighted spurs. These inoculated through the blossom. The disease had passed from the spurs to the twig, and when photographed the twig was girdled by the disease near the spurs, and the apples and leaves at the tip had ceased developing and would soon wither.

appearing, the rapidity with which it spread, and the wholesale destruction of pear trees which it wrought were particularly marked, when first, like a fire, it swept through a fruit section. The mysterious character of the disease, and the futility of the efforts put forth to check it, tended to produce a feeling of helplessness, as if in the presence of some special visitation of Providence, which had simply to be endured. Many theories have been advanced as to the specific cause of the disease. Among these may

be mentioned electrical influence, sunstroke, bark freezing, too high culture, insects, fungi, and epidemic transmitted from place to place by air. Some of these theories may be held still by some fruit-growers, but the better-informed are now aware that investigation has established the fact that the disease is caused and spread by a minute bacterial organism, by name, *Bacillus amylovorus*. This bacillus is always present in tissues; where Fire Blight is spreading; a culture of it can be made, and, by inoculation with this culture, the disease can be transmitted.

The extent of the damage resulting from blight is realized more in the case of pear trees than in the apple or other fruit trees. It has come to be almost a proverb that, on account of its ravages, no man ever plants a second pear orchard. But the effects of the disease in apple trees of certain varieties are very serious indeed. So many inquiries from fruit-growers in various parts of Ontario, regarding the cause of and remedy for the blighting of their apple and pear trees, had been sent in to the Ontario Agricultural College, Guelph, that it was decided, in the spring of 1909, that D. H. Jones, Lecturer, Bacteriological Department, should devote as much time as possible to investigation in connection with the disease. The result of his inquiries are published in O. A. C. Bulletin 176, entitled "Bacterial Blight," and one conclusion reached may be quoted here: That this disease, in "apple, pear and quince trees, causes more loss to the pome-fruit-grower of Ontario than any other agent of loss."

In carrying out his instructions, Mr. Jones has had under constant surveillance the O. A. C. orchard, has visited orchards in the Niagara, Grimsby, St. Catharines and Winona districts three times, some in the neighborhood of Belleville and Pickering once, and has conducted numerous experiments in the laboratory and College orchard.

GENERAL APPEARANCE.

"The disease may occur in the bark of the twig, of the branch or the trunk of a tree, and also in the fruit. The disease is found on the apple tree more often in the form of twig blight, and on the pear tree in the form of body blight. The disease develops and spreads in the main limbs and trunks of pear trees in much the same manner as in the twigs. The germ lives in the tissue cells of the bark, feeding on the cell contents. The exterior of the bark becomes discolored, and it often blisters and cracks, and amber-colored, gummy exudate emerges where the disease is most active." The activity of the disease depends somewhat on climatic and soil conditions, which regulate the flow of sap. The more sap, the more disease, if the germ is present. That is why pear orchards in sod do not suffer so much as when cultivated. A pear tree may be destroyed by blight in one season, and it does not usually live more than three years, if disease is unchecked.

The phase of the disease known as twig blight, or fire blight, is so called because a tree so affected looks as if it had been scorched by fire. "It may occur in blossom twigs, foliage twigs, water sprouts, and suckers. The discoloration and death of the leaves and blossoms occurs comparatively suddenly," though the disease has actually been present for several days or a week, and only in its later stages does it show itself in the parts affected. If twigs that bear the discolored leaves and blossoms be examined, the bark, as in the larger limbs of pear trees, will be found discolored and sometimes blistered, and on blistered areas may often be seen somewhat dried remains of a gummy exudate. "This exudate is literally crowded with the germs of the disease, and if by any means it finds entrance to the bark of a healthy tree, there the disease will develop." In the apple tree, infection from a water sprout or twig may extend to a main limb or the trunk, but there, unlike the pear tree, it is usually confined to a limited area, somewhat circular, and known as Blight Canker.

DISSEMINATION.

The inoculation of blossom twigs is due to bees, wasps and other insects visiting the blossoms, and conveying the germs from flower to flower. But, in the case of twigs which have had no blossom, and yet have become infected, Mr. Jones believes that the disease has been carried usually by aphides or plant lice. "Hitherto it has been thought that the extent of the damage caused by these insects was confined to the direct injury done to the plant by depriving it of sap, etc., but our observations have proven conclusively that the great majority of the new infections of twigs by the blight, after the blossom season has closed, are due to aphides."

On the pear tree the aphid is not found to any extent, but another insect, the fruit-bark boring-beetle (*Scolytus rugulosus*) is believed by Mr. Jones to be one means of spreading blight infection in both apple and pear trees.

Other means of spreading the disease are the pruning knife, saw, chisel, shears, or other tool used in the orchard, after having come in con-



Bacterial Blight.

Blighted apple twig; inoculation through blossoms on the two end spurs, presumably by bees. Disease passed down pedicels to spur, then to twig, killing the end of the twig. Apples developed below the diseased area, but the disease later passing further down the twig would prevent their maturing.

tact with a diseased tree. Both apple and pear trees experimented on have proved this.

ERADICATION AND PREVENTION.

"The apple and pear blight is at present confined to the North American continent, where it has been known since 1817. If all blight germs in the country could be destroyed, the disease would be stamped out, but that is practically impossible. But the disease can be controlled. First, all blighted parts of trees should be cut away as soon as noticed, where possible. It should be clearly understood that by no treatment can a limb be cured, once it has become affected with blight. The only thing to do is to cut it off well below the diseased part. Systematic cutting out of blighted parts should be practiced during late fall. Cut well below or around the blighted area. The instrument used should be disinfected each time after use. All diseased wood should be burned as soon as cut away." As an instance of the need for cutting well below the diseased part, and the effectiveness of such treatment, the case of the pear orchard of Mr. Onslow, Niagara-on-the-Lake, is cited. During the fall of 1908 he had cut out all the blight that he could find. However, when trees were examined, on May 30th, 1909, forty or fifty per cent. of them were found with the disease still progressing below the cut. Mr. Onslow immediately cut those trees again, eight inches to a foot below the visible affected part. When the farm was visited again, in September, no sign of the disease was found on any of the trees.

Second, not much can be done with trees, but the aphides should be kept in check. Mr. Caesar recommends for their destruction, spraying in spring, when the buds are just beginning to swell, with home-boiled lime-sulphur, 25 pounds lime and 20 pounds sulphur to 40 gallons water. This will kill the eggs. For spring and summer wash, to kill the insects, use kerosene emulsion.

"We are thoroughly convinced," says Mr. Jones, hopefully, "that, with concerted action on the part of fruit-growers, due care and adequate precautions, the disease may be brought well under control, if not entirely eradicated from our midst."

Tariff on Fruit.

That was an ill-considered and unwise idea suggested in the petition of wholesale fruit and vegetable dealers in Winnipeg, to have the duty removed from certain fruits and vegetables at certain periods of the year when domestic fruits and vegetables were not in season. It would add one more complexity to an already complex and anomalous tariff situation, and, while in large part retaining the protective feature of the tariff, would sacrifice a considerable share of the revenue now collected on imports. The Niagara Peninsula Fruit-growers' Association protested against the change in a resolution passed at a special session. Of course, the actuating fear of the grow-

ers was not that the change would lessen the revenue collected, but that it would to some extent impair the fiscal protection of Ontario fruit in the Western market. A stronger case could be made out on this score if planted fruit land in the Niagara District were not selling for \$500 to \$1,000 an acre. A supposed increase in tariff protection under these circumstances would not increase the ultimate profit of fruit-growing; it would only enhance the value of fruit land by increasing the demand for it, thus raising rents and interest charges. However, we have no idea that the requested tariff change will be made. It should not, for the reasons set out at the head of this article.

Insects and Diseases Attacking Bush Fruits.

INSECTS ATTACKING CURRANTS AND GOOSEBERRIES.

1. The Currant Worm.—The most common and destructive insect pest of currants and gooseberries is the Currant Worm, the larva of a small four-winged fly, not so large as a house-fly. There are two broods of these caterpillars or worms, the first attacking the leaves shortly after they are fully expanded, and the second about the time the fruit is beginning to ripen. When abundant, either brood is quite capable of stripping the foliage off the bushes. The caterpillars themselves are so familiar to everybody who grows currants or gooseberries that they need not be discussed further than to say that, when nearly full-grown, they

branches of its host-plant. It hatches early in spring, and works on the under side of the leaves, causing them to become badly distorted.

Means of Control.—Spray the bushes thoroughly with the regular spring strength of lime-sulphur about a week or ten days before the buds burst, and supplement this with an application of kerosene emulsion as soon as any of the insects are observed to be present. After the plants are once badly attacked, the writer believes that it is impracticable to spray with any hope of success.

4. The Currant Borer.—Often in the spring of the year, when pruning currant bushes, we find canes with tunnels in the center, and, on tracing these down, a white grub may be discovered as the cause. This borer is the larva of a pretty, clear-winged moth which appears about the first of June, and lays her eggs on the plants. In some districts considerable damage is done to the bushes by this insect, while in others it does almost no injury.

Means of Control.—(1) After canes have borne two or three crops, cut them out, and let fresh canes take their place. (2) When pruning, if the work of the borer is noticed, take the necessary pains to find the insect itself and kill it.

5. Red Spiders.—In very dry seasons, currants, gooseberries and raspberries are likely to be much weakened by numerous tiny, reddish-white mites known as red spiders, which feed on the under surface of the leaves, and suck the nourishment out of them. These mites are unable to endure moisture, and so are not troublesome in seasons when we have plenty of rain.

Means of Control.—Sulphur in one form or another, is, on the whole, the most satisfactory remedy for this pest. The most convenient method of using it is probably as a much-diluted wash of commercial lime-sulphur. About 1 gallon to 60 or even 80 gallons of water will be sufficient, if the bushes are thoroughly sprayed. Prof. Weldon, of Colorado, has recently discovered what is perhaps an even simpler remedy than the commercial lime-sulphur, and one that has given him excellent satisfaction. He says to dissolve about 1 pound of soap in a gallon of water. This can be done most easily by slicing the soap and boiling it for a few minutes. Then add this to 40 gallons of water, and to this amount add 14 pounds of sulphur; that is, about 1 pound of sulphur to every 3 gallons of water. Stir well until the sulphur is thoroughly mixed, then spray on the plants. The soap is necessary to get the sulphur to mix properly with the water; otherwise, it often floats on top. Endeavor to reach the under side of the leaves.

INSECTS ATTACKING RASPBERRIES AND BLACKBERRIES.

1. The Snowy Tree-cricket.—Frequently one finds a considerable number of raspberry bushes with the canes dead for a foot or more at the top. If the dead part be seized and bent, it will usually break off just above the living part, and, on examining the cane, a row of punctures will be seen on one side of the cane where it broke. This scar-like injury, which varies in length from one to three inches, is caused by the Snowy Tree-cricket in laying her eggs. This insect is about



Bacterial Blight.

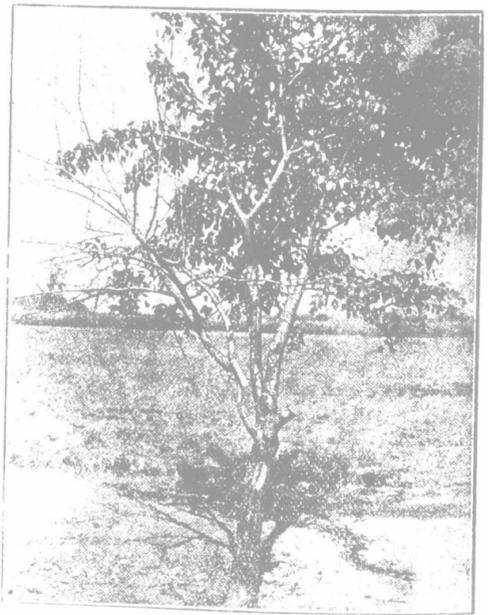
Main limbs of a Flemish Beauty pear tree, O. A. C. orchard, in which the blight is rapidly spreading. The limb to the right is practically dead. Notice the cracking and blistering of the bark, especially on the middle limb. All the disease above the crotch developed last season from the cankered area below the crotch. It spread throughout the bark very rapidly during June, July and August. Photo taken in September.

are about $\frac{1}{2}$ an inch long, pale greenish in color, with many black dots here and there over their body.

Means of Control.—Fortunately, these insects are easily controlled. For the first brood, spray the foliage thoroughly with either 2 pounds arsenate of lead or $\frac{1}{2}$ pound Paris green to every 40 gallons of water. For the second brood, it is not safe to use either of the above poisons, because of the ripening fruit, so spray with the less-dangerous substance, white hellebore, 1 ounce to 2 gallons of water. Be sure that the hellebore is fresh, or has been kept in an air-tight vessel, as it loses its strength otherwise.

2. Oyster-shell Scale and San Jose Scale.—Either of these scales will readily attack currants or gooseberries. They can, however, easily be kept under control by the remedies advocated in the issue of February 24th.

3. The Currant Aphis.—A green aphid is often a serious pest on currant bushes. During the last two seasons it has greatly weakened many plantations. This insect, like the apple aphid, passes the winter in the egg stage on the twigs, and



Bacterial Blight.

Blighted Flemish Beauty pear tree, summer aspect. A dead limb was cut from the stub seen on the right in the spring. The dead limb to the left produced leaves this season, which fell in June, owing to the complete girdling of the limb by the disease. The disease spread rapidly up the middle branches.

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1 inch long, and is greenish-white in color. It has the long hind legs characteristic of all crickets and of many jumping insects. The only injury it does is in laying its eggs in the canes, because at other times both the young and adult insects feed upon plant lice.

Means of Control.—Keep the plantation as free of grass and weeds as possible, and, when pruning, watch carefully for the egg scars, cut them out, and be sure to burn them. Spraying is of no value.

2. The Blackberry Leaf-miner.—In a considerable number of districts blackberries are very severely attacked by the larva of a small four-winged fly that mines in the leaves and causes dead areas wherever it feeds. Some plantations, when seen 100 yards away, look as though they had been struck by a blight. The life-history of this insect has not been well worked out yet, but the writer has observed that there are two broods a year, the first attacking in June and July, and the larvæ of the second brood being found in the leaves even as late as November. Many persons, having seen the larvæ at this late date, believe that the winter is passed in this stage in the leaves, but this is apparently a mistake, as the writer has found the larvæ in the ground from 1 to 1-3 inches below the surface, in a little, hard, oval, earthen case, about the size of a pea.

Means of Control.—No experiments, so far as known, have been tried on the control of this miner, so that only suggestions can be given. Try spraying the leaves very thoroughly with kerosene emulsion as soon as they are becoming badly infested. Stirring the earth beneath the plants in the fall of the year, just before the heavy frosts come, may help to destroy some of the earthen cases. It is hoped that we may be able to give definite directions for control next year.

3. Raspberry Root-borer.—Many raspberry canes, supposed to be winter-killed, prove, on more careful observation, to have been destroyed by the root-borer, a white grub about one inch long, that bores in the roots and base of the canes. This insect is worst in old plantations.

Means of Control.—(1) Start new plantations in good soil, and keep well cultivated. (2) Examine weakened plants for larvæ, and destroy them.

Note.—Many other insects of less importance attack bush fruits from time to time.

DISEASES OF CURRANTS AND GOOSE-BERRIES.

1. Currant Leaf-spot.—There are two kinds of fungi that cause numerous small brown spots on both currant and gooseberry leaves. These leaf-spot diseases become most conspicuous after the fruit has been picked.

Means of Control.—Careful spraying with Bordeaux mixture will control these diseases, if applied at sufficiently short intervals, but they can usually be sufficiently kept in check by an application of lime-sulphur before or at the time the buds are bursting, followed by Bordeaux mixture as soon as the leaves are expanded. If arsenate of lead or Paris green is added at this time, the currant worm is also controlled. A second application of Bordeaux just after the fruit has set, would, of course, help greatly.

2. Powdery Mildew on the Gooseberry.—In most parts of Ontario, and of the other Provinces of the Dominion, the growing of English gooseberries has been rendered unprofitable by reason of the severity of the disease known as Powdery Mildew. This disease attacks the leaves, tender twigs and fruit both of the gooseberry and of the currant, although it is seldom found on the latter. In its earlier stage it appears as a whitish, powdery covering over the affected parts; gradually this becomes darker in color, and finally covers the surface of the fruit with a brown, feltly substance. Affected fruit is dwarfed and useless, and the foliage and tender shoots are likewise severely injured.

Means of Control.—Spray the bushes with lime-sulphur, spring strength, as the buds are ready to burst; repeat with commercial lime-sulphur, about 1 gallon to 40 gallons water, just before the blossoms open, and again after the fruit has set.

DISEASES OF RASPBERRIES AND BLACK-BERRIES.

1. Red Rust.—Blackberries, and, less commonly, raspberries, are attacked by a species of rust which causes the plants to become stunted and covered with a bright-orange substance on the under side of the leaves, and on the tender shoots. This orange color is really due to innumerable little spores, which are capable of being carried by the wind through the air, and spreading the disease, if conditions are favorable. The disease is established inside the canes, and so cannot be destroyed by spraying.

Means of Control.—The only way to control the red rust is to dig out and burn every infested plant as soon as seen. This is not often a difficult task, if done each year.

2. Crown Gall.—Crown gall is a disease that attacks the roots and crowns of raspberries and

several other kinds of plants. It is usually supposed to be caused by bacteria, and seems to be quite contagious. Not unfrequently, whole plantations are useless. The disease is easily identified, as it causes swellings or galls which vary in size from one-quarter inch in diameter to as large as two inches, or even more, occasionally. The galls are rough and irregular in form, and injure the plants by interrupting the flow of sap, or by killing the part of the root below.

Means of Control.—If a plantation becomes badly attacked, there is nothing that can be done, except to plow it up and set out a new one on fresh land, where there have been no raspberries for several years. The greatest care should be taken to select plants for this purpose that are perfectly free from any sign of galls, getting them, if possible, from plantations that are known to be healthy, and even then examining every root and crown to make sure that the disease is not present.

O. A. C., Guelph.

L. CAESAR.

THE FARM BULLETIN.

Gilroy's Holstein Sale.

That Holstein cattle are not only holding their own, but steadily gaining in popularity as a working dairy breed, was evidenced at the dispersion sale, on April 7th, of the herd of G. A. Gilroy, at Glen Buell, Ont., when 25 head, young and old, sold for an average of \$199.80.

The highest price, \$510, was realized for the four-year-old cow, Inka De Kol Posch Beets, of the Carmen-Sylvia tribe, purchased by Dr. Harwood, of Montreal, whose farm is at Vaudreuil, Que. The highest price for a bull was \$400, for the three-year-old Oakland Sir Maida, purchased by W. F. Elliot, Coleman, Ont. A half dozen of the animals sold were consigned by neighboring breeders, and a number of young calves were sold separately, which, if they had been offered with their dams, would have greatly increased the average price, as many of the youngsters went close to, and some exceeded the century mark. A large and enthusiastic company attended the sale, and bidding was brisk from start to finish. Mr. Gilroy, who is going to try his fortune in Alberta, has for many years figured prominently among the leading Holstein breeders of Ontario, and will be missed from their gatherings here, but has the best wishes of the fraternity for a successful career in the West. Following is the list of sales of \$100 and upwards:

Inka De Kol Posch Beets; L. de L. Harwood, Vaudreuil, Que.	\$510
Oakland Sir Maida (bull); W. F. Elliot, Coleman, Ont.	400
Sylvia De Kol Maida; W. F. Elliot	365
Inka Sylvia De Kol; W. F. Elliot	170
Iona Sylvia 3rd; John Stewart, Plum Hollow	115
Rhoda De Kol; C. J. Gilroy, Glen Buell	120
Clintonia Gelsche Segis; W. F. Elliot	250
Ottile De Kol; C. J. Gilroy	145
Clintonia Hartog De Kol; J. A. Caskey, Madoc	320
Rooney Bell 2nd; Dr. Harwood	355
Her heifer calf, born April 2nd; W. F. Elliot	200
Lettie 2nd; Wm. C. Stevens, Phillipsville	135
Florence's Hengerveld; Brown Bros., Lyn.	105
Countess De Kol 2nd; C. J. Gilroy	150
Pauline De Kol Bergsma; G. M. McGregor, Hammond, N. Y.	135
Pietertje Wayne De Kol; S. Hollingsworth	140
Lady Pietertje Beryl; E. C. Day, Gananoque	135
Mutual Friend Nicolo; S. Hollingsworth	100
Nancy Lee De Kol; S. Hollingsworth	130
Sally Marling; T. Davidson, Spring Valley	150
Pietertje Korndyke Witkof (bull), March, 1909; G. H. Wilmot	125
Lettie Hengerveld De Kol; Brown Bros.	100
Inka Sylvia 5th Frontier; A. C. Hardy	185
Coral De Kol Frontier; Dr. Harwood	250
Posch Beets Maida; Dr. Harwood	205

Extracting the Wolf's Fangs.

Nothing succeeds like failure, so long as it looks like success, is the paradox that seems almost to be suggested by the financial crookedness revealed in a series of energetic exposures by our esteemed contemporary, Toronto Saturday night. Of course, the success is not a real success, after all, as appears on digging down into the insolvent condition of these brazenly-promoted concerns, and the disastrous business records of most of their principals, but it passes current in many cases to the extent of extracting good money from thousands of unsuspecting, and, in some instances, from supposedly shrewd investors. Saturday Night started in this past winter to let light into some of the dark places of the Canadian financial world, driving out of the country whose business it is to part people from their money, giving in return not much of anything. Up to date, it has exposed eight fraudulent companies. Over five million dollars of

shares, intended for the public, and partially fed to them, have been rendered worthless, and the companies forced out of business. Two promoters have been landed in jail, three have fled. The latest of these humbugs to appear in the limelight is a well-known firm of stock brokers, or, rather, it now appears, bucket-shop operators, called Patriarche & Co., of Toronto, against the head of which, it is stated, a dozen or more unsatisfied judgments stand, aggregating many thousands of dollars.

It is a discreditable fact that the advertisements of these fraudulently-promoted companies, which collapse so promptly under the stress of investigation, have been regularly carried in the leading dailies, which thus become a party to the frauds perpetrated. Fortunate, indeed, that we have a weekly press with backbone enough not only to refuse advertisements of this character, but to assail the authors of them, killing their schemes by exposure, as bacteria are killed by exposure to the sunlight.

Saturday Night's campaign of exposure has been singularly successful, and our contemporary deserves every credit for its determined effort to exterminate a class of promoter that does serious harm to legitimate enterprise, and undermines confidence in the financial world, besides burning up money that would otherwise find its way into sound investments.

What Trunk Roads Would Cost and Mean.

Editor "The Farmer's Advocate":

The first week in March I attended the Good Roads Convention, held at Toronto, and am pleased that your paper is sufficiently interested in the subject to write an editorial on the matter.

Believing the County Road System is not generally understood, and that, because of this misunderstanding, little advance is being made, I am convinced an open discussion of the matter through the medium of a farmers' paper, such as yours, will do much to correct present conditions. With this object in view, I beg to submit the impressions I received at the Convention, and my conclusions on the subject.

The first thing that struck me was that the automobile manufacturers and owners have determined, if possible, to use the Good Roads Convention to induce the Legislature to establish a through system of roads for automobile traffic, using as a foundation for such a system the best roads that have been built by the farmers of the Province, which, in Middlesex, at least, are not a mean type.

The second impression was that roads suitable for automobile traffic cannot be built in this country at anything like a reasonable expenditure, consequently should not be attempted, unless the entire cost is furnished by auto-owners, and then should not be built on the present improved roads.

Thirdly, and by no means least, I am quite convinced the roads can be improved and maintained, with reasonable expenditure, under the present county-roads system, for which reasonable improvement the present Government grant is sufficient.

Under the regulations of the Public Works Department, as at present constituted, it is not necessary for county councils to build macadam roads, although such roads, or even a better class, may be built. Such being the case, it becomes a matter for the county councils to decide what class of work they will undertake, and also to devise means and ways for the economic expenditure of the money used. A well-drained and nicely-graded mud road can be built, approximately, as follows: Grading and forming open ditches, \$250 per mile; tiling and furnishing outlets, \$400; total, \$650 per mile. This road will be very bad to travel on during wet weather, but can be maintained for \$8.00 per mile for each season.

The next is the gravel road, costing the same for grade and drains, and \$500 to \$800 per mile for gravel, or a total of \$1,150 to \$1,450 per mile. This road will rut readily in wet weather, and, on account of its harder surface, will be more difficult to keep level, and will also require addition of gravel, as occasion demands. Its maintenance, therefore, will cost from \$25 to \$75 per mile per year.

Next comes the road surfaced with crushed stone, at a cost ranging from \$1,000 to \$2,800 per mile, depending on location, or a total cost of \$1,650 to \$3,450 per mile. This road will rut in wet weather, and wear in fine weather, and is most difficult to repair, as the stone bonds so solidly that the ordinary grader or leveller is useless, and the repairs must be made by rolling stone into the depressions formed. Should this class of road be neglected, it becomes very rough, and will cost large sums to repair, or, rather, rebuild, whereas constant attention will reduce the cost of maintenance to possibly \$50 to \$150 per year per mile.

Under county road management, where it is impossible to obtain either stone or gravel, an earth

road may be built, that is properly shaped and thoroughly drained.

Where gravel is available, the metal can be properly treated, screened and graded, and consolidated in position on the crown of a properly-drained and systematically-formed grade.

Where gravel cannot be secured, and stone is available, either by crushing or shipping to nearby stations, this can be used, and will make a good road, although at a marked advance in cost over gravel roads.

Any of these roads will comply with the requirements of the regulations of the Ontario Public Works Department, and towards their construction the Provincial Government will pay one-third of their total cost. Under such conditions, I can see no reason why the roads cannot be very much improved. On the other hand, should the Government raise or establish a standard of through or connected roads, suitable for automobile traffic, and increase the grant to 50 per cent., farmers will discover they have paid one-half the cost of roads that will be utilized by the automobile traffic to such an extent as to drive them back to the adjoining concessions. Not only this, but they will cost much more per mile for maintenance than our present gravel roads, to say nothing of interest on capital invested.

Briefly, my idea would be, first strengthen your present road foundation by improving their drainage, then form the grades so the surface water will readily escape to outlets provided; apply the road metal, using the best available, at a reasonable cost, placing sufficient on old roads to complete a perfect crown, and on new grades sufficient to withstand the traffic the road is subject to. Consolidate the metal immediately after it is laid, and aim, at all times, to keep the roads as far as possible free from ruts and depressions.

CHAS. TALBOT, County Engineer.
Middlesex Co., Ont.

Huntingdon Heard from Again.

April is here in May dress. Balmy days, green lawns, opening buds, characterized the early days of April. Our oldest resident scarcely can recall such "lamb-like" conditions as prevailed during the closing days of March. Sugarmaking was completed, and buckets lifted, ere April dawned—a fact unprecedented in our Province. The season was short, and about an average one to those who tapped early and got the first run. Those who waited until about the customary date for commencing sugarmaking operations missed two good runs; consequently, their output was light. The quality was excellent, and much superior to the make of last year. Prices ranged from 80 cents to 90 cents in tins, and 75 cents to 80 cents in bulk. The up-to-date evaporator has revolutionized sugarmaking, and it is no longer the laborious work of a decade ago. The mild winter and apparently early spring has been most acceptable to the dairymen. Feed has been saved thereby. Rough feed has been more plentiful than was supposed earlier in the winter. An occasional farmer has hay to market, thanks to the full corn crop of last fall. The many full silos were a boon to the dairymen. Hay is changing hands at about \$12 per ton. Concentrated feeds have been high in price, and many new composition feeds have been put on the market, but none of them can replace the ordinary grains, with bran, gluten or oil cake, for milk production. There is a prospect that feeds will drop in price ere long, as much grain has been held over, both here and in the West.

Many of our prominent stockmen, headed by Dr. D. McEachran, of "Ormsby Grange," are arranging to hold a spring show at Ormstown, on the 18th of May. Although plans are yet incomplete, prospects bid fair for a good show of stock. Breeders of registered stock are meeting with encouragement, as the demand for better stock is widely increasing. W. F. S.

The Maritime Horse Show.

Too late for extended reference in this issue has been received a report of the Maritime Horse Show, a new venture, held at Amherst, Nova Scotia, on April 6th and 7th, of the success of which the management have reason to feel proud. The Clydesdales and their grades made an excellent showing. In the aged stallion class, R. S. Starr's Baron Primrose (imp.), by Baron's Pride, won first honors, followed by Logan Bros.' Handy Andy in second place, and W. F. George's Charming Lad as third. Logan Bros. were first in aged mares with Imp. Pink Rose. The strongest class, numerically, was that of roadsters and harness horses, twenty-five entries being forward.

In connection with the tariff settlement between Canada and the United States, it may have escaped the attention of many that the reductions of duty made by Canada were made in the general schedule, and are, therefore, equally applicable to imports from all other countries not already receiving as low or lower rates under the British preferential or French treaty schedules.

New Brunswick Agricultural Progress.

The session of the Provincial Legislature, prorogued on the 26th of March, has done more in a financial way for agriculture than any previous session in the history of the Province, the estimates providing \$53,815 for this service, against \$44,865 in 1909. The following is the comparative statement of the appropriation for 1909 and 1910:

	1910	1909
Agricultural Societies	\$13,500	\$10,000
Dept. Salaries and Expenses...	5,400	5,150
Encouragement of Dairying ...	6,500	6,500
Farmers' Institutes and Educational Work	3,000	3,000
Encouragement of Stock-raising	5,800	800
Encouragement of Horticulture	2,500	500
Extension of Markets	4,000	
Encour't of Poultry-raising...	300	300
Exhibitions	10,000	10,000
Miscellaneous	2,815	2,615
Agr'l Commission and Report.		6,000
	\$53,815	\$44,865

New legislation has not been required to make the various changes in the Agricultural Department's work, as, under the Acts of 1888 and 1897, ample power is given the Commissioner for Agriculture, with the approval of the Lieutenant-Governor-in-Council, to branch out in various directions, and employ such assistance and make such expenditures as may seem necessary.

The suggestions made in the report of the Agricultural Commission, which were largely endorsed both by the Agricultural Committee of the Legislature, and the Farmers' and Dairymen's Associations, have been considered by the Government, and a substantial start made in the encouragement of fruit-growing and the extension of markets for agricultural products; the starting of new agricultural societies has been encouraged, and the grants to them increased from \$8,000, three years ago, to \$13,500 for the present year. To meet the conditions of small localities, the requirements for an agricultural society have been changed from 50 members subscribing at least \$100 per year, to 25 members subscribing at least \$50, thus bringing these organizations within the reach of many farmers hitherto debarred, although it is found that among the new societies organized, many are meeting the old conditions. The result of the encouragement lent to the formation of new societies has been to increase the number in the Province, within eighteen months, from 60 societies to 90 societies at present.

To encourage the keeping of more sheep in the Province, the law for their protection from dogs was amended, so that it is now legal for a person to destroy any dog unaccompanied by a person in charge, that may come on his or her premises at any time. This gives a man who wishes to protect his sheep the right to kill all stray dogs that come upon his premises, without any liability to their owners.

The appropriation for the encouragement of stock-raising is being spent in assisting the importation of pure-bred stock. Importers have been invited to bring Clydesdale and Percheron horses, Shorthorn, Ayrshire and other cattle, to the Province for sale. Already, 60 Clydesdales and 2 Percherons have been brought in, the department paying expenses of their keep and expense of sale, after their arrival in the Province. An importer is now in Great Britain selecting Clydesdales, dairy Shorthorns and Ayrshires, to arrive at St. John in April, and to be sold as soon as quarantine regulations permit. A grant is given annually to the Maritime Winter Fair, and a considerable portion of Agricultural Society fund is devoted to stock-improvement.

From the experience of a few men in different sections, who have been giving some measure of attention to fruit-growing, it is believed that New Brunswick offers some of the best opportunities in America for the production of apples, pears and small fruits of the highest market quality, and, to encourage this industry upon a commercial basis, a Provincial Horticulturist has been engaged, who is now actively at work among the people, and supervising the care of the 25 illustration orchards planted by the Department in the last five years. It is proposed that there shall be a special fruit exhibition in St. John in November next, and this will be followed by fruit displays at the Royal Horticultural Show, London, England, and at the Maritime Winter Fair, with a view of showing the people of New Brunswick, and of the world generally, what the Province can do in this line.

The appropriation for the extension of markets is being used to assist the potato-growers of the Province, as far as possible, to dispose of their large 1909 crop. Unfortunately for New Brunswick potato-growers, there was an overproduction of this crop apparently all over the world, and, if people would double up their consumption of this highly-nutritive vegetable, there need not be such a cry about the high cost of living. This plethora of supplies cut down the price of New

Brunswick potatoes in Toronto, Ottawa and Montreal markets, so that, although dealers were willing to give a premium for the New Brunswick product, on account of its superior quality, yet the price was too low for profitable shipment, and some outlet had to be found, if at all possible. Shippers first turned their attention to the Cuban market, and, while the trade there was in the hands of a powerful trust, yet it was felt that, if facilities were provided, New Brunswick potatoes would compete favorably with other supplies. The first necessity was direct steamers, and firms were found ready to supply this need; then, warehouses were needed at St. John and Havana. The Department gave a guarantee to the C. P. R. Co. of rent for two years, and the Company fitted up a frost-proof warehouse. The Department put men in charge of this to heat and light it, and collect a small fee from shippers. A warehouse was also rented at Havana, to enable the holding of potatoes there. About \$4,000 will be expended in these facilities, and fees amounting to \$2,500 will be collected from shippers. While prices are now very low in Havana, the outlook for the future sale of New Brunswick potatoes there is good, as their high quality gives them first call in competition with the whole world. The daily demand of the Havana market exceeds 3,000 bushels per day. Experimental shipments have also been made to nearly all the West Indian ports.

Not much yet has been done for the encouragement of poultry interests, but it is proposed, in the near future, to employ a poultry expert, and encourage the industry. It is probable that several poultry stations may be established.

The work of holding educational meetings will be vigorously prosecuted through the year. Meetings have been held in Westmoreland and Albert Counties, with the especial object of stimulating renewed interest in beef-raising, for which these countries, with their great hay marshes, are well adapted. These meetings are being largely attended, and a demand for Shorthorn bulls is growing, that bids fair to bring this section back to its reputation of years ago, as a cattle-raising district.

It is proposed, during June and early July, to hold a series of field meetings throughout the Province, to take up in the field practical lessons in cultivation, weed destruction, and stock-judging.

Some attention also has been and will be given to encouragement of beekeeping, and a specialist in this line holds a short course of one week in duration upon this subject.

All who wish to attend an agricultural college, whether for a short course or a full term, have their railway fares paid by the Department, and 35 students have taken advantage of this provision thus far this year.

While the revenue of the Province is small, and not elastic, and the various public services make increasingly heavy demands upon it, there is a growing feeling that more must be done to help place the Province in that agricultural position to which it is entitled by its great area of fertile soil and its admirable climate. Under intelligent methods, crop failure in New Brunswick is unknown, and the Province, as land values stand to-day, offers the most favorable field for agricultural investment in the known world.

Early Seeding.

The year 1910 will doubtless be long remembered for its early spring seeding. Prof. C. A. Zavitz says that, at the O. A. C. Farm, it is the earliest in twenty-five years. Spring grain was sown there on March 26th. He has little fear of its being too early. Crops are usually best, he says, when sown the first week land is in good working condition. A Grey Co. correspondent states that seeding was begun March 22nd. From Simcoe Co., another writes that spring work began March 28th. From Brant County a subscriber reports having sown on March 30th, the ground working fine. A Middlesex Co. farmer finished seeding on April 6th, and, no doubt, many were ahead of him. In some parts of Essex it was expected that seeding would be completed by the end of March. Some authorities assert that 50 per cent. of the wheat crop in Manitoba and Saskatchewan was sown by April 8th.

The anti-race-track gambling bill, commonly known as the Miller Bill, has been defeated by a bare majority in the House of Commons Committee of the Whole. Amendments striking out the first and second clauses were passed, and Mr. Miller, rather than have the bill go through in mangled form, wished it dropped, but, on the suggestion of Mr. Fielding and the Premier, modified his motion, and the bill stands over. A compromise might yet be reached, but it is not expected. Opposition to the bill developed in unexpected quarters. The fight is only begun, say the leaders of the forces in Moral Reform.

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MARKETS.

Toronto. LIVE STOCK.

At West Toronto, on Monday, April 11th, receipts numbered 70 cars, comprising 1,429 cattle, 28 hogs, 18 sheep, 95 calves. Cattle, medium to good; trade good; prices firm, at last week's quotations. Prime picked butchers', \$6.75 to \$7; loads of good, \$6.50 to \$6.65; medium, \$5.25 to \$5.50; common, \$4.80 to \$5.25; cows, \$4 to \$5.25; stockers, \$4 to \$4.75; feeders, \$5 to \$6; short-keep feeders, \$6.25 to \$6.65; milkers, \$4 to \$6.5; veal calves, \$4 to \$4.50 per cwt. Sheep—Ewes, \$5.50 to \$6 per cwt.; rams, \$4.50 to \$5; yearling lambs, \$7 to \$8 per cwt.; choice lambs, \$5 to \$10 each. Hogs—Easier; selects, fed and watered, \$9.40; and \$9.15, f. o. b. cars. One load of exporters sold at \$7.25 per cwt., 1,238 lbs. each.

REVIEW OF LAST WEEK'S MARKET.
The total receipts of live stock at the City and Union Stock-yards for last week were:

	City.	Union.	Total.
Cars	192	193	385
Cattle	2,739	3,447	6,186
Hogs	5,443	1,631	7,074
Sheep	430	88	518
Calves	646	177	823
Horses		237	237

The total receipts for the corresponding week of 1909 were:

	City.	Union.	Total.
Cars	125	65	190
Cattle	1,581	559	2,140
Hogs	2,842	945	3,787
Sheep	519	13	532
Calves	593	98	691
Horses	2	162	164

The figures show a total increase over the corresponding week of 1909, as follows: 195 carloads, 4,046 cattle, 3,290 hogs, 132 calves, and 73 horses; but a decrease of 14 sheep. They show an increase at the City Yards of 67 carloads, 1,158 cattle, 2,601 hogs, 53 calves; but a decrease of 89 sheep and 2 horses.

Although there was a fairly large delivery of cattle last week, there were not enough to supply the export demand. Four of the leading American packing-houses were represented by buyers on the market, and the commission firm of Rice & Whaley had several orders placed with them that they were unable to fill. As a consequence, trade on Tuesday was exceedingly good, more high-priced cattle passing over the scales at the Union Stock-yards on Tuesday than at any previous market in the history of the cattle trade in the Dominion.

Exporters.—Export steers for the London market sold from \$6.60 to \$7.10, and two extra-quality loads, at \$7.25 and \$7.35 per cwt.; medium quality steers for Liverpool and Manchester markets, at \$5.60 to \$6.60; export heifers, 1,030 lbs. each, at \$6.40; export bulls, at \$5 to \$5.60.

Butchers'.—Prime picked lots, \$6.75 to \$7; loads of good, \$6 to \$6.60; medium, \$5.50 to \$5.90; common, \$5 to \$5.40; cows, \$3.50 to \$5.50.

Stockers and Feeders.—Receipts light; prices higher. Stockers, 500 to 700 lbs. each, \$3.75 to \$4.90; feeders, 800 to 1,050 lbs., \$5 to \$5.75, and some short-keep steers, 1,100 lbs. each, sold at \$6 per cwt.

Milkers and Springers.—Receipts moderate; prices steady, at \$35 to \$65 each, with a few choice, at \$70 to \$75 each.

Veal Calves.—Receipts, the largest of the season thus far; prices easier, at \$3 to \$7.50 per cwt., with a few choice at \$8 per cwt.

Sheep and Lambs.—Receipts were a little larger last week, and prices easier. Ewes sold at \$5 to \$6 per cwt.; rams, \$4.50 to \$5.25; yearling lambs, \$7.50 to \$8.50 per cwt., with a very few at \$9 per cwt.

Hogs.—Prices for live hogs have declined. Selects, fed and watered, \$9.70; and \$9.40, f. o. b. cars at country points.

Horses.—The horse trade has again been remarkably good during the past week. There has been an increased demand from the Northwest, due to the large number of settlers that are pouring into that part of the Dominion. Manager Smith, of the Union Horse Exchange, reports having sold and shipped about six loads to the Northwest, with several carloads to Ottawa, Montreal, and the Maritime Provinces, as well as many smaller lots to Ontario points. About 270 horses were received, of which 250 were sold. Amongst them were three carloads of horses from the lumber camps, which sold at \$30 to \$200 each. Prices were quoted as follows: Drafters, \$185 to \$230; general-purpose horses, \$160 to \$210; expressers, \$160 to \$210; drivers, \$125 to \$200; serviceably sound, \$30 to \$100.

BREADSTUFFS.

Wheat.—No. 2 white winter, \$1.07 to \$1.08; No. 2 mixed, \$1.07. Manitoba—No. 1 northern, \$1.13; No. 2 northern, \$1.11, on track, at lake ports. Rye—No. 2, 68c. to 69c. Peas—No. 2, 80c. to 81c. Buckwheat—No. 2, 68c. to 69c. Barley—No. 2, 53c. to 54c.; No. 3 extra, 51c. to 52c.; No. 3, 46c. to 47c. Oats—Ontario, No. 2 white, 37c. to 37½c. at country points, and 39c. to 39½c. at Toronto. Corn—American No. 2 yellow, 69½c.; No. 3 yellow, 66c.; Canadian corn, 62c. to 63c., Toronto freights. Flour—Ontario 90 per cent. for export, \$4.10 to \$4.15; Manitoba firsts, \$5.70; second patents, \$5.20; strong bakers', \$5.

HAY AND MILLFEED.

Hay.—Baled, in car lots, track, Toronto, \$15 to \$15.50 for No. 1, and \$14 to \$14.50 for No. 2. Straw.—Baled, in car lots, track, Toronto, \$7.50 to \$8. Bran.—\$23.50, in bags. Shorts—\$1 to \$2 more.

COUNTRY PRODUCE.

Butter.—Choice-quality butter is firm. Creamery pound rolls, 32c. to 33c.; creamery solids, 29c.; separator dairy, 28c. to 29c.; store lots, 22c. to 23c. Eggs.—Receipts large; prices much easier, at 22c. for case lots. Cheese.—Market steady. Large, 13c.; twins, 13½c.

Potatoes.—Receipts larger than the demand; prices lower, at 35c. to 40c. per bag for Ontario-grown, car lots, on track, Toronto; New Brunswick Delawares, 40c. to 45c.

Beans.—Demand good; prices steady, at \$1.90 to \$2.10 for primes, and \$2.15 to \$2.20 for hand-picked.

Honey.—Prices unchanged, at 10½c. for extracted, and \$2.50 to \$3 per dozen for combs, in sections.

Poultry.—Receipts light; prices very firm. Turkeys, 20c. to 25c.; chickens, 20c. to 23c.; fowl easier, at 15c. to 16c. per lb.

HIDES AND WOOL.

E. T. Carter & Co., 85 East Front street, have been paying the following prices: No. 1 inspected steers and cows, 11½c.; No. 2 inspected steers and cows, 10½c.; No. 3 inspected steers, cows and bulls, 9½c.; country hides, 9c. to 10c.; calf skins, 12c. to 14c.; horse hides, No. 1, \$3.00; horse hair, per lb., 22c.; tallow, per lb., 5½c. to 6½c.; sheep skins, 90c. to \$1.10 each. Wool and raw-fur prices given on request.

SEED MARKET.

The following are the prices at which Toronto dealers are selling re-cleaned seed to farmers: Red clover, best, per bushel, \$10 to \$11; red clover, choice, \$8.50 to \$9.50 per bushel; alsike, best, per bushel, \$8.75 to \$9.50; alsike, choice, per bushel, \$8 to \$8.50; alsike, good, per bushel, \$6.50 to \$7.50; alfalfa, best, per bushel, \$13 to \$14; alfalfa, choice, \$10.50 to \$11.50; timothy, best, per bushel, \$3.25 to \$3.50; timothy, choice, \$2.75 to \$3.

FRUITS AND VEGETABLES.

Apples, the bulk of which are seconds and worse, are very plentiful, and cheaper, at \$1.00 to \$2.00, and \$2.50. No. 1 Spies are easy, at \$3.00 per barrel; onions, \$1.35 to \$1.60 per bag; carrots, 40c. to 50c. per bag; parsnips, bag, 50c. to 75c.; beets, bag, 55c. to 65c.; cabbage, per barrel, \$1.25 to \$1.50; turnips, \$6 to \$6.50 per ton.

Montreal.

Cattle.—On the local market, the receipts of cattle last week showed considerable increase as compared with the previous week. Notwithstanding this, the tendency of prices was upwards rather than downwards, the demand being very active, owing to the fact that supplies had previously been pretty well cleaned out. Outside markets, such as Quebec and Ottawa, were also in need of stock, and considerable was taken for these points. The quality of stock offering was very fair, yet not fancy, although a few very choice were on the market, and sold at 6½c. to 6¾c. per lb. Fine to choice stock ranged from 6c. to 6½c., good ranged from 5½c. to 6c., medium from 4½c. to 5½c., and common from 3½c. to 4½c. per lb. Some heavy bulls sold at 6c., and medium at 5½c. to 5¾c. per lb. Calves are now commencing to come forward freely, and prices have eased off considerably, being now \$5 to \$6 for best, and down to \$1.50 for common.

Sheep.—Spring lambs were more plentiful, and prices \$4 to \$10 each, according to quality. Some old sheep sold at 5½c. to 6c. per lb.

Hogs.—A feature of the week was the easier tone in the market for hogs, prices being down to 10½c., and a fraction less, some having possibly changed hands at 10c. There were some deliveries on contract at higher than 10½c. early in the week, however.

Horses.—Market very firm, owing to the difficulty of obtaining horses in the country. Dealers declare that it is now almost impossible to secure stock at advantageous prices, and that this condition of affairs is likely to continue till the spring work is over. Meantime, prices are somewhat higher than previously, particularly on the heavier classes. Demand has been very good, and local carting companies have taken quite a number of heavier horses for the spring work. Horses weighing 1,500 to 1,700 lbs. each, \$250 to \$325; light draft, 1,400 to 1,500 lbs., \$200 to \$250 each; light horses, 1,000 to 1,100 lbs., \$100 to \$175; inferior, broken-down animals, \$50 to \$100 each, and choice saddle or carriage horses, \$350 to \$500 each.

Provisions.—In sympathy with the market for live hogs, the price of dressed hogs declined fractionally, and sales were being made at 14c. to 14½c. per lb. for abattoir-dressed, fresh-killed stock.

Potatoes.—All sorts of prices spoken of; purchases of Green Mountains have been made at 37c. to 39c. per 90 lbs., at shipping points, although as much as 50c. was being asked. The stock sold here at about 40c. to 45c., and it was hard to get more for carloads of best, on track. The tendency was firmer, though, on Monday, 11th, the stock selling here at 42c. to 45c.

Apples.—No. 2 Spies, \$2 to \$2.50 per barrel; No. 3, \$1.75 to \$2.10; Ben Davis and Baldwin, No. 2, \$1.75 to \$2, and No. 3, \$1.50 to \$1.60 per barrel.

Eggs.—Production constantly increasing, although the price has not shown any immediate tendency to decline much further. Last week buyers were paying about 18c. to 18½c. for new-laid, country points, and these were being taken freely here at 20c. to 21c. per dozen.

Butter.—Owing to the continued warm weather, dealers were only making purchases last week from hand to mouth. Market was quoted at 28½c. to 29c. per lb., for best fall makes; 28c. to 30c. per

lb. for fresh makes of creamery; 21c. to 22c. for dairies, best, and 15c. to 20c. for undergrades, fresh rolls being 22c. to 23c. per lb.

Grain.—The market for oats showed a decline, being now 42c. to 42½c. per bushel for No. 2 Canadian Western; 41c. to 41½c. for No. 3; 40c. for No. 2 white, 1c. less for No. 3, and yet a cent less for No. 4, carloads, store. No. 3 barley 60c., No. 4 58c. and feed 56c.

Flour.—Prices steady, at \$5.80 per barrel, in bags, for Manitoba first patents; \$5.30 for seconds; \$5.10 for strong bakers'; \$5.50 to \$5.60 for winter wheat patents, and \$5.10 to \$5.25 for straight rollers.

Feed.—Manitoba bran in demand at \$22 per ton, in bags, and shorts at \$23; Ontario bran is quiet, at \$22.50 to \$23, and middlings at \$23.50 to \$24, pure grain mouille being \$31 to \$33, and mixed mouille \$27 to \$29. Cotton-seed meal \$35 to \$40 per ton.

Seeds.—Orders still coming in; prices hold steady, at \$5 to \$7 per 100 lbs. for timothy; \$18 to \$20 for red clover, and \$14 to \$17 for alsike. Alfalfa sells at 23c. to 25c. per lb.

Hay.—Market steady, at last week's quotations.

Hides.—Steady, at 10c. per lb. for country hides, not inspected; 10½c., 11½c. and 12½c. per lb. for Nos. 3, 2 and 1 hides, respectively. Montreal; calf skins, 18c. and 15c. per lb. for Nos. 3 and 1; sheep skins, \$1 to \$1.25 each; lamb skins, 10c. each. Horse hides steady, at \$1.75 to \$2.50 each, for Nos. 2 and 1; tallow, 1½c. to 5c. per lb. for rough, and 5c. to 6c. for rendered.

Chicago.

Cattle.—Beeves, \$5.60 to \$8; Texas steers, \$5 to \$6.40; Western steers, \$5 to \$6; stockers and feeders, \$3.90 to \$6.80; cows and heifers, \$2.80 to \$7.10; calves, \$7 to \$8.25.

Hogs.—Light, \$10 to \$10.80; mixed, \$10.80 to \$10.65; heavy, \$10.85 to \$10.65; rough, \$10.35 to \$10.45; good to choice, heavy, \$10.45 to \$10.65; pigs, \$9.85 to \$10.80; bulk of sales, \$10.50 to \$10.60.

Sheep and Lambs.—Native, \$4.50 to \$8.25; Western, \$5 to \$8.25; yearlings, \$5.30 to \$8.75; lambs, native, \$7.85 to \$9.50; Western, \$8 to \$9.50.

Buffalo.

Cattle.—Prime steers, \$7.75 to \$8.25. Veals.—\$6 to \$8.50; a few, \$8.75.

Hogs.—Heavy, 10.80 to \$10.90; mixed and Yorkers, \$10.85 to \$10.90; pigs, \$10.90 to \$11; dairies, \$10.75 to \$10.90.

Sheep and Lambs.—Yearlings, 25c.; lambs, 35c. higher; lambs, \$7.25 to \$10.50; yearlings, \$9 to \$9.50.

British Cattle Markets.

Liverpool and London cables quote live cattle (American) firm, at 14c. to 15c., dressed weight; refrigerator beef, at 11c. to 11½c. per lb.

Lord Aberdeen, formerly Governor-General of Canada, who is resigning his position as Lord Lieutenant of Ireland, tells the following story against himself. He arrived at a certain country railway station, where he was expecting a telegram to await him. "So I went up to the nearest porter," says his lordship, "and asked him if he would mind inquiring at the stationmaster's office whether there was a telegram for me."

"There's none for you, sir," replied the porter. "I've just come out of the office, and there's only one telegram there, and that's for Lord Aberdeen."

"Just then another porter who knew me, approached, and I explained the position to him, remarking jocularly that the first porter evidently did not think I looked the part."

"By way of consoling me," concludes Lord Aberdeen, "he promptly replied: 'Never mind, my lord, if you don't look it, you feel it!'"

"Ma," said a newspaper man's son, "I know why editors call themselves 'we.'"

"Why?"

"So's the man that doesn't like the article will think there are too many people for him to tackle."—Christian Work and Evangelist.



That the "Awakening of China" is a subject which does not lose in interest, is proof sufficient that the fears which coined the term, "the yellow peril," have a recognized foundation, no matter how much the term itself may have passed into disfavor as savoring of sensational journalism. Were the question simply that of the development of China along industrial and educational lines, the great event would be hailed with unmixed satisfaction by the progressive nations of the Occident, but there is always the doubt, What will a nation, so strangely civilized in some respects, so strongly barbaric in others, do?

President Taft does not conceal that he looks to the Western frontier of his country with anxiety. In an address, delivered last week, one of our own influential men, Mr. J. A. Macdonald, of The Globe, expressed his conviction that the Armageddon of the future will be fought on the Pacific. In a recent editorial, British "Nation" notes the significance of the fact that China has driven out the Dalai Lama: "If the Thibetans have suffered, it is the Chinese who have acted. That, after all, is something of a portent, to be classed with the speaking ox in Livy. . . . After centuries of immobility, amidst which the tradition of conquest and expansion had utterly decayed, China appears as an aggressive imperial force." . . . These are but a few of the straws which show what men are vaguely wondering. Recognizing this popular interest, the accompanying article by "Scholasticus" will be read with unusual interest.

New Forces in Old China.

A Consideration of the Forces Now Working in China, Which Will Make it a Great Power.

(By Scholasticus.)

Napoleon said: "When China is moved, it will change the face of the globe."

"New Forces in Old China," is a

subject, the stupendous importance of which, and ultimate effect upon the whole world, it is impossible to conceive of, and, it may be added, to exaggerate. They have to do not only with the future religious history of the world in which we are all interested, but they may be confidently expected, in course of time, to seriously affect the policy, the trade and commerce, if not even to threaten the very existence, of some European and other countries. The results of the war between Japan and Russia have banished forever the days when China and Japan were regarded by the so-called civilized nations with curiosity, mingled with a pitying condescension, and as childish foes, easily frightened and conquered, and as easily forced to obey the will and carry out the demands of the Western powers. China has the largest population in the world, so it is said, 426,000,000; but eminent statisticians cast doubt upon these figures, and say that the British Empire, to which we are proud to belong, occupies the first place in this respect. However this may be, there is this impressive fact to be borne in mind, that these 426 millions are not scattered all over the earth, as the various States within our Empire are, but are congregated in one country, and present a solid and united front to the nations of the world. Picture for a moment the whole vast population of the British Empire gathered together in one great country, rich beyond measure in resources of all kinds, and you can imagine what a power for good or evil such an empire would be. Think of nearly one-fifth of the whole population of the globe being able to act together, without thousands of miles of sea dividing them, and there you have the problem, and the crisis maybe, which, before a great many years have gone by, will have to be solved and met, and which will have been created by the new forces at this very moment at work in old China. The Emperor of Germany has, we know,

a lively imagination, and has the gift of a striking and picturesque oratory. How much of these he owes to his clever and noble royal English mother, I will not stop to inquire. Further, he is an artist. Some little time ago he painted a picture, one which attracted the attention, not so much by its skill in technique and coloring, but by the significance of its meaning. On a projecting rock, illuminated by a shining cross, stand the allegorical figures of the civilized nations. At the feet of this rocky eminence lies the wide plain of European culture, from which rise countless cities, and the steeples and spires of churches of every denomination. But ominous clouds are gathering over this peaceful landscape, and a stifling gloom is overspreading the sky. The glare of burning cities lights up the road by which the barbaric hordes of Asia are seen to be approaching. The Archangel Michael points to the fearsome foe, and waves the nations on to do battle in a sacred cause. Underneath are the words, "Peoples of Europe! Keep guard over your most sacred treasures!" This may be an exaggerated picture, but, at all events, it depicts in a forceful manner the disturbing thought which for years has been running through the minds of the world's deepest thinkers, and which has given rise to that expression, now so familiar to us all, "The Yellow Peril." Probably we should prefer not to take the German Emperor's antagonistic view of the advancing "barbaric hordes of Asia"—a term to which objection can be taken, for reasons which will be given later on; but rather to alter his stirring injunction to, "Peoples of Europe! Extend your most sacred treasures to all nations of the earth, as Christ has commanded." Another Emperor has spoken upon this subject, and his words should command great attention, for they come from the lips of a man who should know whereof he spoke. It was an Emperor of China who said: "We do not lack either

men of intellect or brilliant talents, capable of learning and doing anything they please, but their movements have been hitherto hampered by old prejudices." A less august, but yet a leading Chinese official, has also said, in reply to a remark from a European: "You urge us to move faster. We are slow to respond, for we are a conservative people; but if you force us to start, we may move faster and farther than you like." Perhaps, however, the most conclusive proof of the changed conditions in the East, and the tremendous issues and forces bound up in them, is the fact that Great Britain saw fit to enter into a far-reaching treaty with Japan, a country which is having, and will continue to have, immense influence upon China.

Thus, we have tremendous latent forces in the Empire of China, which, when once trained and equipped in European methods, may be capable of wielding almost irresistible power. Moreover, the population cannot fairly be described as a barbaric horde. Countless centuries of training, in parts, at least, of what we call civilization, has rendered the Chinese far superior in mental calibre to the negroes of South Africa, the natives of India, and the inhabitants of the so-called uncivilized countries. It ill becomes us to look down with an air of superiority upon a country whose antiquity goes back, no one can definitely say how far; it is lost in the dim hazes of the past; upon a nation whose astronomers made accurate and recorded observations before Abraham left Ur; who used firearms at the beginning of the Christian era; who invented printing 500 years before Europe; who discovered the principles of the mariner's compass, and whose many other scientific achievements have advanced the civilization of the whole world. But as the wise and observant Emperor of China, to whom I have referred, said, "Their movements have been hampered by old prejudices." It is scarcely to be wondered at that pre-



In the Spring of the Year.

judges should arise in a nation so old, so self-sustaining, and so intentionally isolating itself from intercourse with other nations, or, that scorn of "foreign devils" should be born and bred. Many of us may, perhaps, have thought that this scorn was of comparatively recent origin, but it really dates back to centuries ago. A Chinese historian states that the old sage monarchs treated the barbarians—that is, the outside nations—as birds and beasts; they did not contract treaties with them, nor did they attack them. To form a treaty was, they said, simply to spend treasure and be deceived; to attack them, was simply to wear out the troops and provoke raids. Coming down to recent times, the treatment which China has received at the hands of foreign nations, the territory which has been taken from her, the indemnities which she has been forced to pay, the ports she has had to open, and the treaties which she has been obliged to sign, could scarcely be expected to change the views of this old nation; and the terrible Boxer troubles may be taken as an outward and visible sign of this prejudice. Yet, a new force has been at work, which is already beginning to show good results, and which, perhaps, may, in course of time, entirely remove this prejudice. This force—this, comparatively speaking, new force—considering the age of China, is not the effort made by traders to enter into commercial relations with the Chinese, for, unfortunately, the impression left upon the mind after reading about these, is that for many years after their commencement, they must have been only productive of a contrary effect. This beneficent new force was the missionary. As has been very truly said, "He has not only established churches and planted schools, he has written books, and translated other books, and introduced Western arts and sciences, and pioneered the way for commerce and civilization." It is thus, in this way, that the missionary is the force which has shown the way to break down prejudice.

As has been said, the missionaries planted schools, and there is very little doubt but that by so doing they fostered, if they did not originate, the movement, now so marked in China, for a new and better education. Dr. Lowry, the President of Peking University, has said that Christian schools were established in China long before a system of modern education was thought of by the Government, and they have been largely instrumental in the adoption of the new educational policy. This is one of the most important new forces which is at work in old China. To appreciate and thoroughly understand the marvellous change which is now taking place in China, it must be remembered that the educational system there has been in continued and unchanged existence for nearly twenty centuries. Their text-books, methods of instruction, examinations, and the ultimate results aimed at, have remained exactly the same during all this long length of time. The writings of Confucius, and the lengthy commentaries upon these written by old Chinese sages, formed the only text-books, and constituted practically the whole curriculum. The old schoolhouses have been described as dark, dirty, ill-kept rooms, generally parts of ancient temples; while the methods of instruction consisted in letting the boys toil away at their dusty old books, all reading aloud, often shouting at the tops of their voices, and going over and over again, in order to memorize words which had absolutely no meaning to them. It should, however, in fairness, be said that the principal reason why a Chinese schoolroom is as noisy as a boiler shop is that the requirements of the exact tone compel the students to study their lessons out loud for their own satisfaction. For instance, if you are not careful to give the Chinese word which is used for God, in certain parts, the proper tone, it means Heaven only. Many other examples

might be given if space allowed. To commit to memory every line of the Confucian classics and a large portion of the commentaries; to be able to write these, and poems on selected texts, with faultless diction and penmanship, has constituted the course for all Chinese scholars, leading through the lowest to the highest degree in the Empire. This same system has been the basis of competitive examinations for twelve hundred years, for entrance to the Civil Service; by it, successful candidates have gained the highest official honors in the Empire. Curiously enough, whatever may have been the effect on the millions of unsuccessful candidates of such a system, European diplomats and others who have been brought into contact with these Chinese officials state that they are possessed of a high average of intelligence, and are generally well equipped to manage state affairs. Now, however, an Imperial decree has ordered the abolition of this venerated and certainly most antiquated system of education in the world, and there may be perhaps a happy augury for us in the fact that old temples have, by similar decrees, been pulled down, in order to make room for new, large, light, bright, clean schools. A revolution has taken place, but a peaceful, quiet, bloodless one. And this is a tribute to one of the chief virtues of the Chinese to which I will refer later on.

(To be continued.)

The Windrow.

Over 60,000 tourists arrived in Sicily last week to see Mount Etna in eruption.

There is but one railway in Persia. It is six miles in length, and connects the capital with a shrine.

The Transandean tunnel, through the Andes, between Chile and Argentina, was formally opened last week.

Practical tests of the Brennan mono-rail, or one-rail system for railways, recently held in England, have been most successful. A gyroscope attachment to the cars provides stability.

A sanitary motor-car, fitted with all the necessary apparatus for disinfecting contaminated places, to be used in rural districts or thinly-settled communities, has been devised in France.

Ex-President Roosevelt is making a memorable tour through Europe. He has been entertained by King Victor Emmanuel at the Quirinal, and will be the guest of the Kaiser when he visits Berlin.

At Sholapur, India, there is a factory which is making matches from a kind of grass. In view of the fact that lumber for making matches is becoming scarce in many parts of the world, this announcement is of especial interest.

Owing to the many recent fatalities attending the flying of aeroplanes, a new type, composed of airship and aeroplane, combined, has been devised by a Frenchman, M. Casar. The vessel has been successfully tried at Issy-les-Moulineaux.

A Japanese religious paper states that there are in Japan 77,000 Protestants, and 88,000 Greek and Roman Catholics, out of a population of 50,000,000. There are still 288,000 Buddhist temples and Shinto shrines, to 1,675 Christian churches.

In London Town.

By Thomas Jones, Jr.
The road leads straight, the road leads far,
To London town;
And there the knights and ladies are
And brave renown.
But here with you I watch each pair
Pass up and down,
And wonder what they find so fair
In London town.
—Everybody's Magazine.

Hope's Quiet Hour.

The Vision Draws Us Near Our Fellows.

(From "The Vision of His Face," by Dora Farncomb.)

To walk with God, means to walk also close to our nearest and dearest friends. I don't believe He ever intends to separate friends, though He often removes them from sight. To really walk with God is to be one with Him, and to feel His Life in every part of our being. Then we can, in Him, reach out at any moment and touch the heart or hand of one we love, and who is also one with Him. "In Christ, His chosen ones are near each other, though continents and oceans may divide them," and even Death—the Great Divider—has been robbed of his terrors. Christ has conquered him and has a right to say, "If a man keeps My saying, he shall never see death." As our Living Head is very really on this side of the Veil, as well as on the other side, to be one with Him means that we, too, are on the other side as well as on this.

"Christ with him, and Christ with me,
And so together still are we."

Even when they were visibly beside us, it was really the soul rather than the body that we reached out to touch, in the gladness of holy fellowship. If love were dead, what possible satisfaction could there be in such outward signs of "the sacrament of friendship" as the clasp of a hand or the sight of a face. It would give pain instead of joy to have the outward sign, if the inward grace were absent. And it is a truism that the real person is always out of sight—as regards our bodily sight—and can only be seen and touched by spiritual senses.

"I have not seen thee, though mine eyes
Hold now the image of thy face;
In vain, through form, I strive to trace
The soul I love: that deeper lies."

Those who walk with eyes lifted to their dear Master's face, find that the hearts and spirits of their friends—who are like-minded—are mysteriously linked with their own. Our nearest and dearest are always beside us. Reaching up to God continually, for us, they pour new strength and joy into our lives. We rest confidently on their love, and walk always side by side with them in the sweetness of real fellowship. If you know the joy of having friends who are drawing you ever higher into clearer fellowship with the Friend whose love "passeth knowledge," then keep fast hold of these messengers from God. Such a friendship is not an easy thing to hold, for true love must always include sacrifice. If you are trying to take all and give little, then you are cultivating selfishness instead of friendship. Give strong love and earnest prayers, and anything else that friendship may demand. But, if you have a friend who is like Christ, and who is helping you to grow like Christ, never let him "slip unawares" out of your life—though it may cost you all you have, even to life itself, to hold fast to him. For such a friendship is eternal in its nature. Though you may be far apart in body, prayer can keep you always close to a friend; and a bodily parting is a very small thing when hearts are one. "We have for ever," there is no hurry. God's best gifts go on ripening through all eternity. Those whom God hath joined together, in holiest friendship, can never be parted by distance or death; so long as each is faithful to the other.

The best way of touching those who are "on the other side of Christ," is to minister to Him through His "brethren," who are still visibly near us. And gloomy service is hardly worth offering or accepting. If you can't realize anything of the joy of Paradise, if you find it impossible to share in the blessedness of those who are worshipping God face to face, then pray earnestly that your eyes may be opened.

"Dear hands, unclasped from ours, are
clasp'ng Thee;
Thou holdest us forever in thy Heart;
So close the One Communion—are we
In very truth apart?"

Distance or death will be a stern test of the worth of friendship; but, if the hearts are loyal and true, any outward parting can only serve to draw them closer together. The little irritating faults, which spoiled the perfect beauty of fellowship, fade into insignificance; our souls at their highest and best, can reach out and touch those other souls at their highest and best. The living links which bind their hearts to ours, grow stronger day by day. We can rejoice in their bright, ever-growing beauty; the desire to keep up with them, in their upward climb, fills each day with interest; and we learn to give thanks—for them as well as for ourselves—for God's refining pain which keeps us always near to Him and near to His friends.

The Vision of His Face helps us to overcome evil with good, and be loving and gentle even to those who are unkind or unattractive. When we feel hurt at some unkindness, we can look up to Christ and see how lovingly He is regarding the soul that seems so unattractive in our eyes. He wants to see it grow daily more beautiful; He is earnestly trying to refine and purify it; He is carefully perfecting it. When we realize that truth, the coldness of our hearts will change into warm affection, we shall forget the little injury or wrong; remembering only that, as our Master loves that brother who has hurt our feelings, we must love him too.

Our Elder Brother warns us that if we wish to come to Him for daily bread, if we wish to retain the power of seeing His Face, we must not be satisfied to come alone. We must earnestly try to bring our brothers nearer to Him. Pressing close to our Elder Brother, we discover that all who are near of kin to Him are our brothers too. How can we bear to hurt Him by any rude or irritable word or look?

Then there are friends whose spirits and hearts are linked with ours in the wonderful mystery of the Communion of Saints. They are very near us when we are alone in the quiet hours of the night, though they may be far away in body. We can touch their hands, as we slip ours into our dear Lord's; we can send messages straight to their hearts, through His; we can tell Him how earnestly we desire their perfecting. . . . The friends who are constantly holding up our souls in prayer to God, help us mightily. They bring down His great light to purify and glorify us. They look at us through His eyes, and so are able to see, not only the best that is in us, but also an ideal, possible best which is not yet ours. Inspired by their trust, we reach out after the ideal holiness which they desire for us.

If we do not fail our comrades, there is little fear that they will fail us. What we give in good measure will be rendered back richly and generously. If we give our friends love and prayers to help them on their way, they will not fail to entreat God for our perfecting:

"One friend in that path shall be,
To secure my steps from wrong;
One to count night day for me,
Patient through the watches long,
Serving most with none to see."

The Vision of His Face.

This book—by the author of "Hope's Quiet Hour"—contains eighteen chapters (224 pages). It is bound in cloth, with gilt lettering. Sent postpaid for one dollar, by The William Weld Co.

One reader of "The Advocate" wrote concerning it:

"The book arrived Friday. I read the Preface and Introduction Saturday morning, and said to my daughter: 'How remarkable! that is just my experience.' Well, I have read ten chapters, and I must say that I think it is better, fuller, richer, than I expected. I am pleased, edified and comforted in reading it. I give this one to my daughter, then I want six more (money enclosed), as I have seven children.
Your Brother in Family of Christ,
E. T."

Dear readers of the Quiet Hour,—The purpose of this column is to inspire others to lead a more ideal and fuller



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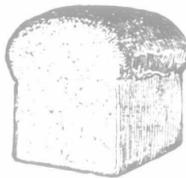
But that's not all. Every grain of this wheat contains both high-grade and low-grade properties. In separating the high-grade parts from the low-grade the Western Canada Flour Mills put the hard wheat through a process so exacting that not a single low-grade part has the remotest chance of getting in with the high-grade.

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It means that Purity Flour is made entirely of the highest-grade flour parts of the strongest wheat in the world.

It means a high-class, strong flour and therefore yields "more bread and better bread."

Purity may cost a little more than some flours, but results prove it the cheapest and most economical after all.



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Please Remember to Mention "The Farmer's Advocate" When Writing

life, and, as my heart goes out towards others, I would like to talk to every one of you readers occasionally. There is a great deal of matter written that does not penetrate or arouse the reader. It simply runs off like water on a duck's back. I want to get into actual touch with you—with your very soul. I want to wake you up. We are all more or less liable to feel a little discouraged at times. It is an easy matter to be brave and full of hope when things go right, but when things go a little wrong, we are liable to weaken a little in faith and lose heart. But the reason we get down-hearted, is not because of the difficulties that embarrass us, but because of our lack of faith. Peter lost faith in his own powers when he saw the big wave coming towards him. A few words of encouragement helped this man over the short distance. Do not let us forget our inherent power to overcome. Like the bird that is hypnotized by the sight of danger in the eyes of the snake, so are we hypnotized by the sight of our trouble. It grows larger and larger (only in our mind, however), and we get into it deeper and deeper, till at last we are sure there is no way out of it.

So far we have done nothing but look at our trouble and hold up our hands in utter helplessness. Fear has paralyzed us. When we cease looking at our trouble, and look at our surroundings, our trouble soon dwindles down to its normal size. When we see the clear path beyond our trouble, the desire to get there arouses our courage to tackle our difficulty, and desire is half the victory. Remember, that with a chisel and a hammer, you could get through a solid brick wall. A prisoner sometimes works his way through a stone wall with the help of a nail. His strong desire to get out, in connection with the faith in his power to do so, did it. Don't look at your trouble, look at your goal, and remember that "you can." A. E. W.

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. (4) Allow one month, in this department, for answers to questions to appear.]

Some More Good Essays on "My Vegetable Garden."

This subject just suits me. Although I cannot soar away in reveries like some of our college friends, nevertheless I am very much interested in my vegetable garden, and, like the old Plymouth Rock hen, I am delighted when I can get in to shake the ground around the onions.

Very often we find the garden the most neglected spot on the whole farm, simply because many farmers do not think it very important. They have no time to plow the garden until all their seeding is finished.

Then all the garden seed must be hustled in at once, whether "it is the right time of the moon or not," as long as the seed is scattered and the ground scratched over it. Now, although the "moon-signs" do not trouble me, I like to have my garden ready in the fall, so it will dry off quickly and work up nice and mellow in early spring, in order that I may sow each variety of seed just at the time when it starts the best and brings the best results.

In these days, when the living expenses run so high, a good garden is a great consideration, as many wholesome, appetizing dishes may be prepared with the fresh vegetables.

Our garden is one chain square, and we find plenty of room for everything we require. The fence should be a high picket, with a small gate near the house, and a large gate in some convenient place for the horses to enter to plow it in the fall and disk it in the spring. We find a couple of underdrains are a great benefit, as it not only dries off much earlier, but it retains the moisture longer in a dry season.

Late in the fall, when the vegetables are all gathered in, they cover the garden with the chicken manure, and then put in a cross furrow, so that the manure will keep the water well

drained off. In the spring, we work it up with a disk if possible, then, with the help of two stakes and a good heavy cord, we divide it off into plots and paths as far as we desire, and the remainder we mark off with the stakes and cord into rows for sweet corn, potatoes, cucumbers, etc.

Of course, the ground must be worked up very fine, and all the weed roots, etc., raked out; then I level it up. If it is very early, we make the plot considerably higher than the paths, and slightly elevated in the center, in order that the water will drain off well, but, later in the season, we think the ground retains the moisture better if they are just a trifle higher than the paths. I usually take a long, light board, and mark out the rows about fifteen or eighteen inches apart, according to what I intend to sow. We try to get it as straight as possible, because it looks so much neater when the vegetables come up. I try to follow the directions on the seed package of the various seeds, and sow the seed in the proper time. Lettuce, beets, onion seed and sets, vegetable oysters, parsnips, etc., I sow as early as possible to work the ground, but cucumbers, corn, plants, etc., must be left until no danger of frost.

A little pepper-grass or parsley is very fresh and dainty for garnishing the meats.

For cucumbers, I usually plant the seed about the first of June. However, I am not so particular as our grandmothers were, who always tried to plant cucumber seed on the 4th of June, before sunrise. But I have had very good success with cucumbers, either with the manure in the bottom of the hills, or by placing piles of manure here and there and planting the seeds in the ground around it. One year I was troubled with a yellow-striped bug, or fly, and by using Paris green to kill the insect, I finished the cucumbers as well.

But since that I have used Bug Death for cucumber insects, and have had good success. We use it also for tomatoes and cabbage. A little work every week in the garden is much better than allowing the weeds to get started, and it is much easier to keep it clean than to clean it out after it is weedy. We have the rows far enough apart to hoe nicely between them.

Everything must be thinned out properly, and the ground worked up thoroughly around the roots.

My tomato and celery plants I start in March, or the last of February, in the house, and by transplanting them several times, I have nice plants to put out as soon as the weather permits. My cabbage seed I usually sow in a box outside, or in the garden early.

This much I have learned, that it is more economical to have a few baskets of cucumbers, tomatoes, etc., to sell, than to have to buy; and when you have them in your own garden, you have them just when you want them, and they are always fresh and appetizing.

LINCOLN GOOSE QUILL.

Lincoln Co., Ont.

Some would prefer a fence of wire netting to the pickets. Chicken manure is said to be especially good, as it contains fewer weed seeds than ordinary stable manure. Only 15 or 18 inches between rows would not allow for horse-cultivation, would it?

"My Vegetable Garden."

Now that the snow is gone, and the warm Easter sun shines over the bare, brown fields, my thoughts turn, naturally, to my barren garden plot, and, after being shut in all winter, I long to be at work in it again. How I do love gardening, and what a source of joy and enthusiasm my last year's garden was to me! As I stand looking dreamily out my back window at the sunshiny patch of black ground, it is suddenly transformed into rows and beds of fresh green things, promising so many dainty dishes for the table.

But this year's garden exists only in the mind and in the window-boxes. Last year's garden was something very real and practical, and I hope to profit this year, both by my successes and my failures. It was the first garden I ever raised of all my own, though I have helped my father, so I went into it with all the

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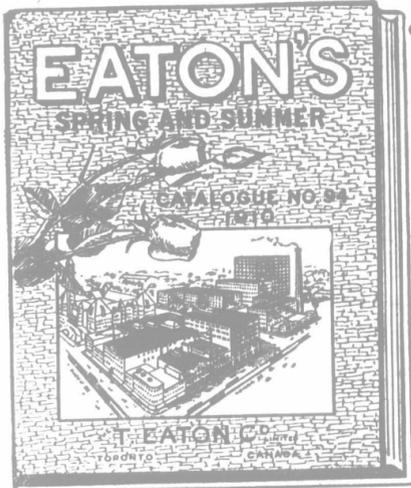
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enthusiasm of a new beginner, and gathered all the garden lore I could from every source available. I did not attempt a great variety, as my time was so limited, but I tried to do my best with the things I undertook.

To begin with, I secured a plot of ground right behind the house, so I could come often to peep in the window to see if the baby was all right. It was a piece of sod plowed in the fall, and nothing had been done to enrich it, so I felt a little dubious, especially as it was grown up in spots with great masses of tansy, thistles, milkweed and golden-rod. It had been a calf pasture, though, so I hoped would turn out all right. Some people told me the tansy would make my vegetables taste bitter, but I could venture no farther from the house, so I decided to run the risk, and my experience proved that this idea was wrong. Everything was all right.

The ground was so long drying that it was the end of May before it could be cultivated. Then it was thoroughly disked, and after that I planned out my garden. It was much larger than I needed for vegetables, so I chose the most suitable part to sow my seeds, and had the rest filled in with potatoes. I planted everything in rows, as far apart as for potatoes, leaving even more room for tomatoes and cabbages, so that the whole piece could be cultivated with a horse. This saved me a wonderful amount of work, besides the ground was kept much mellow than when cultivated entirely with a hoe. Every week when the men cultivated the corn and potatoes, they went through my garden patch, too, and I tried to get out the same day and finish up. It was a very easy matter to pull up the weeds right among the young plants, and to hoe the mellow ground up over the roots.

Everything grew very fast, in spite of the fact that it was dry for a few weeks at the start. Only the early monthly radishes suffered by this. They grew slowly, and so were strong and woody. But I did not sow all my radishes at once. I sowed what I thought we could use in two weeks, then left a space. In two weeks' time I sowed as many more, and again in two weeks another piece. That made all we cared about, and we could use them all before they grew woody.

I sowed only a short piece of lettuce, but, by cutting off the tops, instead of pulling up by the roots, I kept a new crop coming on all the time.

I sowed but a few carrots, and thinned them out twice, using the second thinning to cook. Some people like them small, and so do not thin them at all. But I think a medium-sized carrot keeps better, and is just as tender.

I sowed a small piece of turnips, and tried transplanting some, thinning them to about twelve inches apart. I found the ones transplanted when just above the ground made as good turnips as the ones not disturbed, while some I tried later on went to tops, and had only a stalk for a turnip. I took care to keep the turnips and radishes far apart, and so had nice sweet turnips, while a friend who planted them side by side had bitter turnips.

I allowed the beets to grow fairly large tops before thinning out, and then used top and beet together for greens until I had thinned out all I wanted. They were always tender.

I only sowed half of my peas, "McLean's Little Gem," when I made the garden, but left a row equally long, where, in two weeks' time, I sowed the other half. In this way we had a succession of green peas. I was always careful to pick every pod that was ready, and did not allow them to grow big and hard. So we always had tender peas, and the vines bore twice as long before drying up.

I tried three varieties of beans, white ones, to have for winter use, big blue and white ones, for string beans. These had white, tender pods, and were much nicer than some black ones I planted later in the season. They had green pods. I would not plant them again. With the beans, also, I was careful to keep them closely picked. There were only about eighteen hills, and two or three I left exclusively for seed. My vines were green and prolific after other people's had gone to seed, and they even blossomed and bore a second crop late in the fall.

One side of the garden, where the tansy had been the worst, I took for my pumpkins, thinking I could keep it clean around the roots, and the weeds would not hurt the vines so much, but as the horse cultivated both sides of the row, it was not hard to keep it all clean. I planted Japanese pie pumpkins, and, although they did not grow large, every one was good, and the vines bore well.

Popcorn was planted next to the pumpkins, while the sweet corn was planted at the other side of the garden, to prevent mixing. I planted "Minnesota Early" and "Stowel's Evergreen." The latter just commenced to be ready for use as the former was done, so we had a succession of sweet corn also. I placed the kernels eighteen inches apart in the rows. From one kernel, many stalks came up, also "suckers." Someone told me to pull these latter off and the ears would be better. I did pull off some from both sweet corn and popcorn, but for lack of time gave up the task, and was afterwards glad I did, for I found with both kinds of corn, that the ones I let alone had just as many large ears (and even larger), besides a great many small ears, which were just as good to eat. I kept the corn well hilled, as, in fact, I did everything—only the onions resented it.

A good many of these went to tops, while the bulbs were attacked by grubs. I lost about half the crop in this way. I found out afterwards, that if I had put some ashes in the row before setting out my toppies, it would have prevented the grubs. The bulbs should be allowed to grow nearly above the ground, as they naturally want to do, and the tops should be crushed down occasionally. And just here I want to ask for some information. I had a package of toppies and Dutch sets, mixed, but could see little difference when I planted them. When I gathered them in the fall, I found some big, solid onions, which have kept perfectly until now, while others were in bunches, made up of many little pieces, and had to be used right away or they would have spoiled. Was this because the latter were too deeply covered with ground, or was one kind from the toppies and the other from the Dutch sets?

My tomatoes were started in boxes in March. I placed the seeds far apart so the plants had plenty of room, and did not transplant them. I set them out as soon as the season would allow, and shaded them for a few days, but they had been toughened to the weather before moving, and had good roots, so never wilted. They were late bearing, though, so I thought I should have sowed my seeds earlier in March.

The cabbages were started in boxes in April, and were early enough. These I transplanted once before setting out, and they were hardy enough to need no shading. I was afraid the ground was not rich enough for cabbage and tomatoes, so with both these I put a little ashes in the bottom of the hole before setting in the plant. I did not lose one plant with the grubs, and they all grew very rapidly.

The cucumbers were also planted in rows, and about two or three inches only between each plant. They made a very heavy foliage, which covered the ground and kept it moist. I put them at one end of the garden, near the house, so I could water them when the weather was dry. I picked the cucumbers when small to use for pickling, and this kept the vines green longer. When I had enough pickled I let the rest get ripe for sweet pickles, but the vines were green till the frost came.

There was one spot near the house where the ground had been thrown out of the collar that seemed worthless, so I had a couple of beds dug up here and made extra rich, and there I planted some muskmelon seeds. They grew lovely in their rich beds, and the vines spread out over the barren ground. I had a splendid crop of delicious melons.

Then, one other thing I tried. I sowed asparagus seeds in one of the rows after the risk of the early gardening was over. These came up and made a little feathery strip by fall. Now, this spring, I hope to have a strip right down the middle of my garden, made very rich, in which to transplant these little roots. In a few years' time I hope to have a flourishing asparagus bed, as this is my favorite

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A Telephone With a Muzzle

A correspondent writes to the Canadian Independent Telephone Association:

"Personally, you have my sympathy and support, but as Secretary-Treasurer of a Telephone Company which has a majority of 'Northern Electric' phones, I find it wisdom on my part not to be speaking too loud on these subjects."

The above statement is one illustration of the influence which the "Bell" monopoly exercises over those rural companies with which it does business. If you cannot buy apparatus without sacrificing your independence, it would be wisdom to purchase from concerns which do not interfere with your freedom.

The Canadian Independent Telephone Association does not sell telephone equipment or supplies, nor does it recommend the patronage of any particular manufacturer. It is, however, prepared to supply a list of firms which furnish apparatus of the highest grade, and which you can patronize without forfeiting the right to give voice to your opinions and to manage your affairs as you may think best in your own interest.

Why purchase apparatus from concerns in the control of the "Bell" monopoly, when you can obtain the best and most modern equipment from independent manufacturers who have fought your battles and made rural-telephone service a possibility.

Read the following extract:

Select Committee on Telephone Systems, Minutes of Evidence.

Page 562.

By Mr. Chrysler:—

QUESTION—SO THAT THE BELL TELEPHONE COMPANY, Except the Directors' Shares, hold all the issued shares of the Northern Electric and Manufacturing Company?

ANSWER—(By C. F. Sise) THEY DO.

QUESTION—WHO ARE THE DIRECTORS OF THE NORTHERN ELECTRIC AND MANUFACTURING COMPANY?

ANSWER—THEY ARE PRACTICALLY THE DIRECTORS OF THE BELL TELEPHONE COMPANY.

The Canadian Independent Telephone Association exists for the purpose of removing the evils of monopoly in telephones, and assisting the people to secure an unrestricted service by the establishment of systems under local ownership and control.

If you are interested in the organization of a local, municipal, or rural-telephone system, and require advice or assistance, write to

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vegetable, and is the first green thing for the table in the spring.

There are many other vegetables I should like to grow if I had more time. One favorite I did not attempt was celery. I have known so many to try it and reap only headache and heartache, that I decided to wait until I had time to study the subject and make a success of it.

And, now, good-bye, and may every Ingle Nooker who goes in for gardening reap as much joy and profit from their garden this year as I did from mine.

MRS. W. H. ALEXANDER.

Stormont Co., Ont.

Snowdrop Likes a Pantry.

Dear Dame Durden,—I have read in your paper that Margaret intends to build a house. I can tell you a few things, although young, that may help her. Be sure to have your floors finished so you can put rugs on them, as they are a labor-saving thing, and by all means have a pantry. If Margaret would wish the plan of our house, I will send it to her. Our pantry contains a dumb-waiter, a flour-box, which is in two sections, so as to hold both pastry and family flour, a place to hang our tins, a cupboard which reaches right across end of room, a table built to wall, a door to kitchen, and a door to cellar. This pantry is very convenient to us. I would have a pantry and then have a sideboard or buffet for dining-room. Also be sure to have a bath-room. Have your kitchen boarded, both sides and ceiling.

Now that spring is here, one's hands become chapped so with the wind. I use vaseline and talcum powder. I rub the vaseline in well, and then apply a little talcum. This makes them both soft and white.

A good way to keep fish is to clean them, then put in crocks, and cover with vinegar. Bake in over four hours. Let them stand a few days before using, and the bones will become soft.

Could anyone give me a formula to take the redness out of one's skin? Also to take stiffness out of one's hair?

I must stop, and am only too glad to have met you all.

SNOWDROP.

Huron Co., Ont.

Witch-hazel cold cream is said to be good for harshly reddened skin. To make it, pour into a dish set in hot water, 3 ounces rosewater and 1 ounce witch-hazel. Stir well until well mixed, then beat until nearly cold. To make the hair soft, rub into the scalp a little pure vaseline at nights, twice a week, and wash the hair frequently. Often hair is stiff and ugly because it is not washed often enough. Some people with naturally oily hair, need to wash it every two weeks; others only need to wash theirs once a month.

Biscuit—Date Cake.

Dear Dame Durden,—I am a reader of "The Farmer's Advocate," and enjoy the Home Magazine part very much. I am a farmer's wife, and see many helpful suggestions for busy mothers.

I would like if someone would print in "The Farmer's Advocate" a good recipe for a date cake.

I will enclose a good recipe for hot biscuits: 4 cups flour, 3 teaspoons baking powder, 1 tablespoon lard, a pinch salt. Mix well, and add sweet milk enough to roll. This will be for two pans. ANOTHER BUSY MOTHER.

Waterloo Co., Ont.

Date Cake.—(No. 1)—Make a light jelly cake and bake in layers. When cool, spread with the following filling: Boil 1 cup sugar and 3 tablespoons water until it "hairs," then pour slowly over the beaten whites of 2 eggs. Beat well and add ½ teaspoon vanilla and ½ cup stoned dates, chopped fine. (2) Make an oatmeal pastry as follows: Mix together 2½ cups oatmeal and 2½ cups flour. Rub in 1 cup butter, or butter and lard mixed, add 1 cup sugar, then half a cup lukewarm water, in which 1 teaspoon soda has been dissolved, to make a dough. Roll in two sheets. Spread stewed dates on one, lay the other on top, bake, and cut into squares to serve.

A "Timely" Breeze from Bernice.

Dear Dame Durden,—I was in your city in the summer, and the thought occurred to me: "How nice it would be to call

at the "really-truly" Ingle Nook, and make the acquaintance of our Lady Superior in the flesh. "Bould" idea was it not? But, my courage failed me, as I have a horror of encroaching upon business people's time and good nature at a time when—perhaps of all times—they would consider an untimely time to spare the time to give a little good time to even an old-time friend of your time-honored paper.

And you know the time-worn joke regarding a woman's inability to "call time" at the proper time, when she does sometimes (?) get a chance to talk; so, for fear of probably causing you to do overtime on my account, together with the fact that at that time I was somewhat pressed or time, I deferred my prospective nice time to some future time—probably a stormy time in winter—when trains have not such an important, perfectly indifferent, and "Time-and-(trains)-wait-for-no-man" style of moving off strictly according to time-card.

At that time, too, the newspaper people may possibly have reached a low-time for news, and even a garrulous woman of "ye-olde-time" style would be welcome, and given a short time to talk of the times in general, or housecleaning time, preserving time, gardening time, or any other time close to a woman's interests in particular.

By this time in the evening, my time-piece warns me that it is time folks of my time of life were sleeping; so, as I expect that is the condition of yourself by the time you have marked time to this effort, I will lose no more time in wishing you and your up-to-time paper the continued success its worth merits, and all the fine times you can time yourself to have, both in and out of office time.

Adieu, dear Dame, for this time, and imagine—if you will—my double-time tread on the stairs, in my anxiety to reach my room in any sort of conscionable bedtime.

Your "all-the-time" friend,
Bruce Co., Ont. BERNICE.
Come to the Nook next time, Bernice.

"The Baby" Again.

Dear Dame Durden,—As I too am an interested reader of the Ingle Nook, I feel my time has come to seek help through it. My trouble is similar to "Huntingdon's" last year. Our baby is two months old, and I, having a very severe attack of grippe when he was two weeks old, have been compelled to make a bottle boy of him.

When that letter on the subject from "Jack's Wife" came last year, I sent it on to a friend who required it, never thinking it might be needed at home. Now, I want to ask Huntingdon if she will be kind enough to let us know how she prepared the food for her boy. I have had no experience, and seeing it proved so good with her, I would try and follow the same rule.

Wishing Dame Durden and all the Ingle Nookers much happiness and many blessings.
ANOTHER QUEBECITE.
Gatineau Valley, Que.

Beef Fat.

Dear Dame Durden,—I saw a request for a way to render beef suet to take away the beefy, or what I call the tallow flavor. My method is to put the suet into a roasting pan and place in the oven, roast as you would beef, let it brown very slightly, pour off the fat as it renders. If one has pork dripping at hand a good shortening is made by mixing both together.

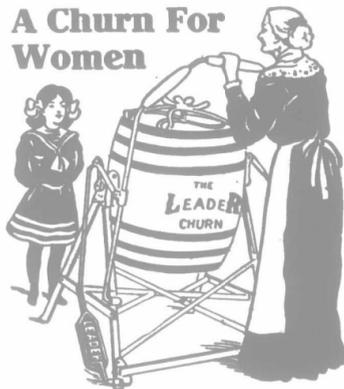
This is my first screed. We enjoy "The Farmer's Advocate" very much. Hope's Quiet Hour is excellent. What has become of "Uncle Sandy"? We miss his letters; they were so amusing and so full of good common sense. S. D.
P. Q.

Another Way.

I notice while reading "The Farmer's Advocate" you were asking how to take away that beefy flavor in rendering beef suet.

When it is rendered, just before taking from the stove, add a little milk. It will make it clear and sweet, so it may be

A Churn For Women



This is our "LEADER" CHURN—made of the best White Oak—which won't chip or peel like glass or crockery—absolutely sanitary—and may be operated by foot or hand. If your dealer does not handle Leader Churns, write us direct. 53

CUMMER-BOWSWELL LIMITED, - Hamilton, Ont.



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An ordinary piano is limited in its usefulness. If no one in the family plays, it stands idle. This Piano is never idle—every one in the family plays it.

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108 A

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They mend all leaks in all utensils—tin brass, copper, granite, hot water bags, etc. No solder, cement or rivet. Any one can use them; fit any surface; two million in use. Send for sample pkg. 5c. Complete pkg. assorted sizes, 50c. postpaid. Agents wanted. Collette Mfg. Co., Dept. 1, Collingwood, Ont.

FOR SALE.—A choice six year-old Imx. Clydesdale stallion. Will weigh nineteen hundred. Bred in the purple and leaving choice stock. Nelson McRae, Moose Creek, Ont.

When Writing Mention The Advocate

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Six Minutes to Wash a Tubful!

Ladies! Just see how easy I do a big washing with my 1900 Gravity Washer. I start the tub a-whirling. Then the gravity device under the tub begins to help and the rest is just like play. Washes a tubful in six minutes! How's that for quick and easy work? The 1900 Washer Co. sent me this marvellous machine on trial. They didn't ask for notes or cash in advance. And they let me pay for it a little each week out of the money it saved me! They treat everybody the same way.



You can have one shipped FREE

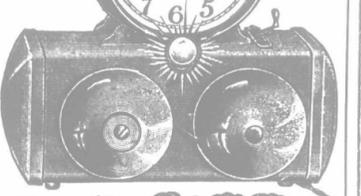
on thirty days' trial, the same as I got mine. The company will let you pay for it on the same easy terms they offered me. The Washer will actually pay for itself in a very short time. Mine did! I wouldn't take \$100 cash for my 1900 Gravity Washer if I couldn't get another just like it. It does beautiful work—handles anything from heavy blankets to daintiest laces. Every housewife who is tired of being a drudge and a slave to the washtub should write to

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MRS. R. H. FREDERICK.

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CHIMES AND PEALS
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FULLY WARRANTED
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WESTERN CANADA FARMS
We make a specialty of Manitoba and Saskatchewan farms, improved and unimproved. We do not deal in blocks or speculative propositions, but we have a lot of real nice snags for individual investors and home-seekers. Full information on application.
E. S. Miller, Ltd., McIntyre Block,
WINNIPEG.

May I print a kiss on your lips, he said,
And she nodded a sweet permission,
And they went to the press, but rather,
I guess,
They printed a whole edition.

used for pastry or anything you would use lard for. I might say use sweet milk.
"SUNSHINE."
Brant Co., Ont.

Rusty Stovepipes.

Will someone please give some method of preserving stovepipes from rust? We use hard coal, and in summer the pipes are carefully put away in a dry chamber. When wanted again some parts are so badly eaten with rust as to be useless.
MRS. B.

Have you tried stovepipe varnish for the outside, grease for the inside of the pipes?

Millinery Hint—Bittersweet.

Dear Dame Durden.—We two have been interested readers of the Ingle Nook for some time, and have received much help from its columns, so we thought that the following might be of help to some of the Nookers. Have any of you ever tried dyeing old silk braid, fancy straw, flowers and other discarded millinery, which will not stand water, with gasoline and oil paints? Mix your oil paint till you get it the desired shade, then add enough gasoline to dip in your faded millinery. Hang outside until the odor is gone. Don't be afraid to try this, for we have found it very successful, and it has saved many a milliner's bill. I presume, of course, that you all know the precaution to be observed in the use of gasoline.

We are also interested in stencilling, and have found the information in your columns from time to time of great help. One piece we were especially pleased with was a cushion top of cherries and foliage done of course in red and green.

Does anyone know where we could get a plant of the climbing bittersweet, shown in a picture in "The Farmer's Advocate" in one of the February issues? We have been ransacking catalogues without success.

We hope this will help someone who is dreading the spring-millinery season; so wishing the Nook every success, we remain,
Your new friends,
PUNCH AND JUDY.

Thanks for your splendid millinery hint. Write to the seedsmen who advertise in "The Farmer's Advocate" about the climbing bittersweet. In some parts of Canada it grows wild in the woods.

For the Woman who Must Economize.

The time of buying has arrived again, and no doubt, for many, the occasion of a little worry as to where everything is to come from. Last year's dresses, perhaps, are quite faded or look hopelessly out-of-date; the children are to be fitted out for the summer, and the house seems to need so many new things too.

In such a case it is a "mighty" good plan (as Thackeray used to say) to just sit down and consider wherein economy may be exercised, to find just "where we are at," so that if we have been foolish in the past we may avoid similar mistakes in the future.

To start, then, with clothes: Star actresses do not usually need to practice economy, yet no less a star than Maud Adams has asserted that she has found black and white to be the most economical colors. Black always looks respectable, and a black suit-coat will go very well with any odd skirt in black that one may chance to have, a thing that cannot be said of suit-coats in any other color. White, on the other hand, never "fades," and a white mull, or India linen, or organdie, may be worn over slips of pink, blue, green or yellow to give warmth or variety, or for parties, etc. A white or a black hat, too, will go well with anything, similarly, black or white gloves. An old white straw hat, by the way, may be whitened by rubbing it over first with lemon juice, then with salt or sulphur, and exposing it to the sun. An old black or colored one may be made presentable by giving it a good coat of shellac, then two or three of liquid shoe blacking. Some even use stovepipe varnish.

Now, coming to the question, "Shall I have a new gown, or will I make the old one do?" It may sometimes be neces-



For clean, close skimming and durability the MELOTTE has no equal. It costs more, but get the best. Have a MELOTTE sent to your farm and prove this for yourself.

Every machine guaranteed to the customer. Unsolicited testimonials received every day. We will send our Booklet on request. Enquiries invited.

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58-60 Stewart St.,
TORONTO.

PREPARE NOW TO MAKE EVERY MINUTE COUNT AT HARVEST TIME

FOR you must make every minute count then to be sure of getting the full profit from your acres. Smooth, rapid, uninterrupted work is a necessity when the grain is ripe for cutting. Every delay due to a slow, inefficient broken-down machine will rob you of a part of the reward you have a perfect right to expect.

You have used great care in preparing the ground—sowing the seed—caring for it while it is growing. Don't, through lack of foresight now, run any risk of making valueless at harvest time the hours of labor spent in preparing for it. Be prepared to get all the crop with a McCormick. Your grain may be tangled or down. It does not matter, a McCormick Binder will pick it up quickly and bind it in the best possible shape.

The McCormick Binder is made to meet the requirements of the Canadian farmer. It does so as no other machine does. It has stood the test of time. Its light draft, strength and uniform good work will permit you to save all your grain with the least labor on your part.



The McCormick line embraces a large number of other machines just as valuable as the binder, such as drills, tillage implements, gasoline engines, cream separators, wagons, hay presses, manure spreaders and motor vehicles. Every McCormick machine is the superior products of expert designers and skilled workmen. Look over your machines today. See what you need to properly handle the harvest this year. Then call on a local dealer or write direct for further information. Take the step now that will insure your getting all the profit from your harvest.

CANADIAN BRANCHES—International Harvester Company of America at Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg, Yorkton.
INTERNATIONAL HARVESTER COMPANY OF AMERICA CHICAGO U S A
(Incorporated)



sary to be heroic—indeed, it takes a real heroine to wear the same old gown for several seasons in this day of changing fashions—but it is much better to do so, with a little modernizing and cleaning, than to go into debt for a new one or buy it at the expense of something else more necessary; and she who so ascends above caring for public opinion, and is willing to assert her own individuality and independence in this way, has won a victory of which she may well be proud.

It is right, of course, that we should consider the appearance of our clothing, that we should strive to be just as neatly and becomingly clad as we can; but that is a very different thing from trying to keep up with every vagary of fashion. "Clothes have made men of us," says Carlyle; by the mouth of Teufelsdröckh, "they are threatening to make 'clothes-screams' of us,"—and he spoke very truly.

We should look to these things with good sense and moderation. If we have a spending allowance of only fifty dollars a year or less, we should not try to follow in the footsteps of the woman who has a hundred or more to spend upon her wardrobe. If we are wise, however, we need not look so very antiquated even in our old things. We will realize that we must never, never, have a dress made in any extreme mode, as extremes are sure to go out of fashion soon. We will hold to rather conservative styles, and so, if we never chance to be very much "in" the fashion, we will have the satisfaction of knowing that we are never very much "out" of it. The tailored shirtwaist, with slightly-full bishop sleeves, full length, is one of these conservative styles; with a skirt of the same material it forms the ever serviceable shirtwaist suit, which, with pretty ties and collars, is always attractive. The tailored suit, with medium-length plain coat and plain skirt, the long plain coat of "ulster" design, and the hat that is neither too large nor too small, are other items that come in the same category. For dressy wear, pretty fluffy things, with three-quarter or elbow length sleeves for the young, never look out of place.

For children, every economical mother knows about "making down," so let that pass.

For the house, devices are endless, and many of them must depend upon one's own ingenuity. You know, of course, that paint or stain is cheaper than carpet for living-room, dining-room and bedrooms—cheaper, and more sanitary, and more fashionable. Of course you will need rugs for coziness. Perhaps you will hold up your hands in horror at the idea of hooked rugs, yet these, in one color, with perhaps a harmonizing border across each end, are much used in some of the most artistic country houses for living-rooms, bedrooms, etc. The grand secret is, of course, that the rugs must blend in with the leading tones of the room.

Do you know that old lace curtains, in which the darns and patches show lamentably, may be treated to a bath of thin boiled starch in which golden ochre has been mixed? It is strange but true that, after this process, the darns will be much less perceptible than before. The curtains will be a pretty old-gold shade—if you have put in enough ochre—and will do nicely for a bedroom in which the leading tones are gold. They should be made, of course, just to the bottom of the sash, a fashion now almost universally adopted for bedrooms, living-rooms, dining-rooms, dens and libraries. Draw the curtains well back over the wall, and run a short valance quite across the top. If you have white curtains which you would prefer of a creamy tint, give them a bath of saffron tea or strong coffee.

When sheets wear thin in the middle, cut them in two and sew up, putting the weaker portions at the outside. Old table cloths become family serviettes, dresser-covers, sideboard covers, etc.; old stockings may be combined ingeniously to make drawers for the tiny tots; old white bedspreads make good bath towels.

As a parting word this time: Consider the wisdom of throwing out unnecessary things. Believe, with Thoreau, that "Most of the luxuries, and many of the so-called comforts of life, are not only indispensable but positive hindrances to the elevation of mankind. With respect to luxuries, the wisest have ever lived a



\$1,000 for a Coat of Paint

It seems hard to believe, yet that is the sum of money that a coat of Martin-Senour Paint 100% Pure added to the selling price of a certain house.

For several seasons, a shabby weather-beaten house had been offered for sale. There were no buyers until a shrewd real estate broker purchased the property and, with a single coat of paint, magically changed it from a shabby house to that of a home of dignity—a home of comfort and elegance; furthermore, he sold it within a very short time clearing \$1,000.

Nothing so preserves and maintains the value of your property like

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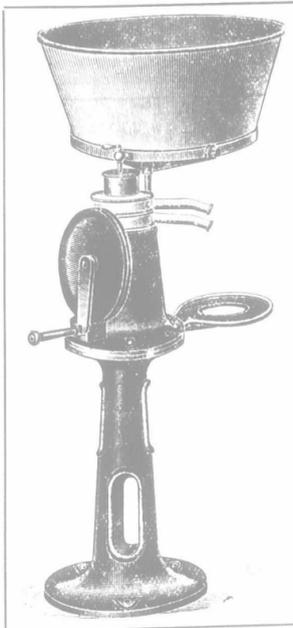
The coat of Paint made the sale. Don't let your property depreciate in value for the need of paint.

If your dealer cannot supply you, notify us and we will gladly direct you to where our paints are to be had.

Decline All Substitutes

Write for illustrated booklet, "Home Beautiful," and interesting color card. Free for the asking. The Martin-Senour Co., (Limited) Montreal

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THE "PREMIER" Cream Separator

Has Saved Money for Others.

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The "Premier" is not a low-priced cream separator. It is the cheapest yet made to give satisfaction to the customer. See it before buying. Book of unsolicited testimonials on request.

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TORONTO, ONTARIO.

EASTERN BRANCH: ST. JOHN, N. B.

more simple and meagre life than the poor. . . . To be a philosopher is not merely to have subtle thoughts, not even to found a school, but so to love wisdom as to live, according to its dictates, a life of simplicity, independence, magnanimity and trust."

Remember that not even your attractiveness or that of your home is depend-

ent upon clothes or grand things, but upon your smiling face, your alert mind, your pleasantness in conversation, the air of cleanliness and warmth and coziness and good taste that surrounds you, and the friends whom you choose to bring about you. An old saying is, "Ye friends of ye house are ye ornaments thereof." (To be continued.)

New Edison Records for April.

On an increasing number of farms, phonographs are now to be found. A good phonograph and good records, and you are provided with entertainment in plenty. The April list of records in-

cludes selections from Grand Opera, rag-time melodies, songs, sacred numbers, and recitations, numbering 45 in all. There are five Grand Opera selections, Grand Air d'Agathe, Flower Song, Waltz Song, Brindisi Aria, and Blick Ich Umher, from "Tannhauser." Among the lists we note especially selections from "Babes in Toyland," by Victor Herbert's orchestra; "Sheridan's Ride," recited by the actor, Edgar L. Davenport; "The Thunderer and Gladiator Marches," by Sousa's Band; "Lady Love," a coon song; "Mia Cara Waltz," played by the American Symphony Orchestra; "I'd Rather Say Hello than Say Good-bye," by Manuel Roman; "To a Wild Rose," "The Despatch Rider," a concertina solo; "How Can They Tell I'm Irish?" comic song by Edward M. Favor; and "Miss Liberty March," by the New York Military Band.

"The Farmer's Advocate" Fashions.



6582 Semi-Princesse Costume, 34 to 42 bust.

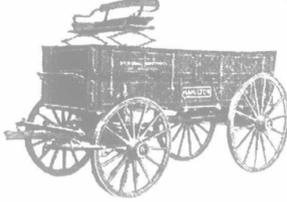
Suitable for foulards, muslins, mulls, organdies, India linens, batistes, lawns, voiles, marquisettes, and crepe de Chines.



6582 Eight Gored Skirt, 22 to 32 waist.

You'll Get Best Service from the IHC Line of Wagons

WAGONS may look alike when they are new, but they are not all like IHC wagons. IHC wagons are quality wagons which means dividend returners. Would it not be a good idea to investigate this line of wagons?



Hamilton and Old Dominion farm wagons are members of the IHC line. They are quality wagons. They really stand in a class by themselves. They are the exacting farmer's choice. Buy one and you will get more than a dollar's worth of service for every dollar the wagon cost. Investigate these wagons. Make a critical inspection. Compare them with any other wagon now upon the market. You will be surprised at the extra value you will be getting and then you will know why you will get best service from Hamilton and Old Dominion farm wagons.

Hamilton and Old Dominion

wagons are built to meet the conditions found on the Canadian farms. They have a record for satisfactory service.

Hamilton wagon boxes are made of the best grade of poplar and have four binding rods on each side instead of two, the usual number used in less perfectly constructed wagons. With oak sand boards and A-grade oak or hickory spokes and bolsters, one of these wagons is an investment that pays big dividends in a lifetime's service.

Old Dominion Wagons have bottom reinforcement—front and rear. They have eight cross sills securely riveted at each end. Like the Hamilton, the wagon box is constructed of selected and air-dried poplar—the most perfect material for wagon boxes which are used for hauling heavy loads of wheat, corn, etc., because it is less liable to warp and allow the small grain to slip through the crevices.

It will pay you to call on your local International dealer. He will show you a wagon that will best meet your needs. Or, if you prefer, write direct to nearest branch house for a booklet of the wagon in which you are most interested.

WESTERN CANADIAN BRANCHES: International Harvester Company of America at Brandon, Calgary, Edmonton, Regina, Saskatoon, Winnipeg, Yorkton.

INTERNATIONAL HARVESTER COMPANY OF AMERICA (Incorporated) Chicago U.S.A.



For Sale by Public Auction

on Wednesday, April 20th inst. 2.30 p.m., at Beamish Hotel, Caledon East, imported Hackney stallion, White Wall Dane, No. 8703. Color black. Foaled Sept., 1902. For particulars apply to:



W. C. BURRELL,

Secretary of Association, Caledon East, Ont.

7% Guaranteed

Investment Return. Principal Absolutely Safe. Established Business.

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6587 Semi-Princesse Dress for Misses and Small Women, 14, 16 and 18 years.

Suitable for foulard, pongee, cotton foulard, chambray, zephyr, giingham, linen, voile, etc.

Give bust or waist measure as required. Price, ten cents per pattern. Address: Fashion Dept., "The Farmer's Advocate," London, Ont.

For Maple-sugar Time.

Maple Nut Biscuits.—Put 3/4 cup nut meats through the meat chopper, then mix with 1 cup finely-shaved maple sugar. Sift 1 qt. flour with 2 teaspoons baking powder and a little salt, then add 2 tablespoons softened butter and enough sweet milk to make a soft dough. Turn out half the dough on the bakeboard, roll out and cut with a small biscuit cutter. Brush over each a little white of egg and spread with the maple mixture. Roll out remaining dough and cut out in the same way. Place one on each of the first, brush each again with white of egg over the top, and bake in a quick oven.

Maple Junket.—Slightly sweeten and warm 1 qt. milk. Flavor, then add one junket tablet dissolved in 1 tablespoon cold water. Pour into glass serving-dishes and chill. When ready to serve, spread a layer of chopped maple sugar and nuts over each.

Maple Sandwiches.—1 cup finely-shaved maple sugar, 1 cup blanched almonds. Mix to a paste with thick, sweet cream, and use as sandwich filling.—[From Harper's.

Bliss Carman, the Canadian editor and author, recently told at a dinner a story about James Russell Lowell and a bad boy.

"A Boston woman," said Mr. Carman, asked Lowell to write in her autograph album, and the poet, complying, wrote the line:

"What is so rare as a day in June?"

"Calling at this woman's house a few days later, Lowell idly turned the pages of the album till he came to his own autograph. Beneath it was written in a childish scrawl:

"A Chinaman with whiskers!"

BREEDERS !

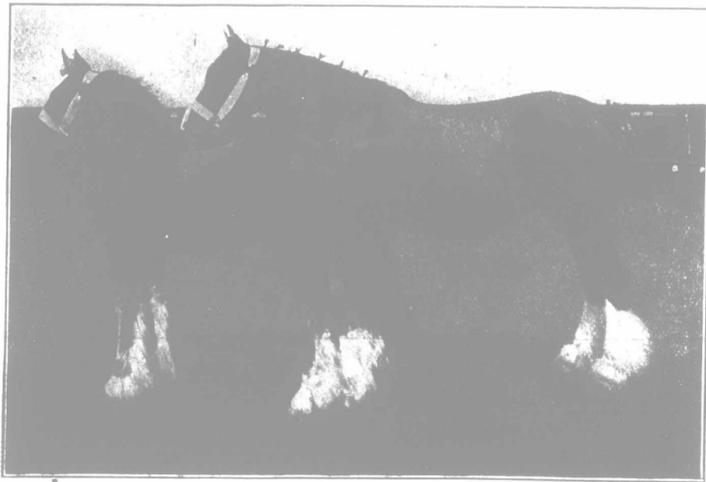
Insure your mares and foals against risk of death during foaling. Why take a chance of loss of a valuable mare when a policy in

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will protect you? If you are shipping horses West, we will insure you against loss while en route, from any cause whatever. Write for particulars to

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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.

BUFF Orpington eggs that hatch; nine chicks guaranteed. Four special pens, \$3 setting. Splendid utility stock, extra heavy layers, \$1 setting. Illustrated catalogue free. Hugh A. Scott, Caledonia, Ont.

BARRED ROCK EGGS—From a pen of the "National Strain." Selected for their choice barring, and persistent layers of perfect colored eggs, and mated with choice cockerels. Vigorous, blocky, barred to the skin. Price, \$1.00 per 13, or \$2.00 for 32. W. C. Shearer, Bright P.O., Ontario.

BLACK Langshan eggs are most nutritious. Thoroughbreds from Glenloch Farm at \$3 a dozen will surprise you. City office, 326 Yonge St., Toronto.

BEST laying strain Barred Rocks, large size. Eggs, \$1.00 per 15; \$4.00 per 100. A. E. Donaghy, Colborne, Ont.

BARRED Rock Eggs—From grand matings. Write for mating list. W. W. Dods, Alton, Ontario.

BUFF Orpington Eggs—From three pens specially selected for good laying and table qualities; headed by strong, vigorous males, from one of Canada's best pens. Fifteen for \$1.00; fifty for \$3.00. Orders taken for young stock. Edgar Staples, Bright, Ont.

BARRED Rock eggs, safely packed in Morgan baskets, \$1.00 per 15. C. H. Chalmers, Smith's Falls, Ont.

BARRED Plymouth Rocks, 237-egg strain; one dollar per setting. Mrs. J. R. Henry, Waterdown, Ont.

BARRED and White Rock eggs, \$1 per 15; \$4 per 100. S. L. Jayne, Grafton, Ont.

COLUMBIAN and White Wyandotte Eggs—Dollar twenty-five per setting. Excellent stock. Emerson Tufts, Welland.

CANADA'S best Anconas. Winter layers. Very profitable. Free circulars. Tells all about Anconas and Leghorns. Edmund Carlyle Apps, Box 224, Vice-President International Ancona Club, Brantford, Ontario.

COLUMBIAN WYANDOTTES—Grand breeding trio, \$7.50; also cockerels. Eggs to hatch, 10 cents each. Silver Duckwing Leghorns, Toronto and Buffalo winners. Eggs, \$2.50 per 15. A. J. George, 52 Clarence St., London.

EGGS from Pure-bred S. C. White Leghorns. Fifteen, \$1.00; 108, \$4.00. Satisfaction guaranteed. Wm. Leibold, Zurich, Ontario.

EGGS from prizewinning Single-comb Black J. Minorca and Indian Runner ducks; also Hamilton incubator and brooder for sale. Jno. Ogram, Listowel, Ont.

EGGS from pure Indian Runner ducks, 10c each. Single-comb Rhode Island Reds, \$1 per 15. Frank Bainard, Glanworth, Ont.

EGGS from Silver Wyandottes, White-crested Black Polands, \$1.50 per 15; Barred Rocks, \$1.00 per 15; prizewinners. Robert Houser, Canboro, Ontario.

EGGS FOR HATCHING—From heavy-laying strain of pure-bred Black Minorcas. One dollar for thirteen. Ed. Hacker, Beachville, Ontario.

EGGS for hatching—From prizewinning Single-comb White and Rose-comb Brown Leghorns. Extra good layers. Eggs guaranteed fertile. One dollar per fifteen. James Snyder, Wales, Ontario.

EGGS FOR HATCHING—From prize stock; Barred, Buff and White Rocks, Rhode Island Reds, Black Minorcas, \$1.00, 13; \$2.00, 30. Light Brahma eggs, 25 cents each. A fair hatch guaranteed. Joseph Foster, Brampton, Ont.

EDELWEISS WHITE ROCKS—Eggs for hatching, \$2 for 15. Breeding pen: "Edelweiss I" (3rd Ontario cock, '09), with 10 yearling hens, trap-nested, which have as pullets proven themselves "worth while." A grand utility pen. J. A. Butler, M.D., Baden, Ont.

FOR SALE—Nine White Rock hens and cock bird, bred from American prizewinners; also S. C. Brown Leghorn eggs, \$2 per 15. W. H. Howden, Whitby, Ont.

GOOD laying S. C. W. Leghorns. Eggs one dollar per fifteen; four dollars per hundred. Martin Robertson, Kent Centre, Ont.

GOOD-LAYING strain Barred Rocks, Rhode Island Red, Rose Comb. Eggs, \$5.00 per hundred. L. Parkinson, R. R. No. 1, Guelph, Ont.

KELLERSTRASS-Cook Strain White Orpingtons. Hoyer's strain Buffs. Eggs, \$1 and \$2 setting. Stock for sale. H. Ferns, 715 William Street, London, Canada.

LOCHABAR Poultry-yards offer eggs from choice pens of Barred P. Rocks, \$1 per 15. Pekin and Rouen duck eggs, \$1 per 9. D. A. Graham, Wainstead, Ontario.

MY BIRDS won over five hundred first prizes at eleven shows. Barred and White Rocks, White and Brown Leghorns, Black and Spangled Hamburgs, Buff Orpingtons, Black Javas, White-crested Black Polands, White and Silver-laced Wyandottes, Rose and Single Combed R. I. Reds; two pens of each breed; No. 1, \$2.00; No. 2, \$1.00, per 15 eggs. Black Orpingtons, Houdans, Light Brahmas, Partridge and Buff Cochins, Silver Pencilled and Columbia Wyandottes, Buff Rocks, Blue Andalusians, Anconas, Golden Sebright Bantams; one pen only; \$2.00 for fifteen eggs. F. W. Krouse, Guelph, Ontario.

PURE-BRED Barred Rocks and Buff Leghorns, good color, excellent layers; \$1.00 per 15. William Fahey, Tavistock, Ont.

RHODE Island Reds, Rose-comb; bred eleven years from carefully-selected heavy winter layers of large brown eggs. Fifteen eggs, \$1.50. Satisfaction guaranteed. Jno. Luscombe, Merton, Ont.

ROUEN DUCKS—Eggs for hatching from prizewinning stock. \$1 for 7; \$2 for 15. J. H. Rutherford, Caledonia East, Ont.

RHODE ISLAND REDS—Grand large farmers' fowl, heavy layers. Fifteen eggs, \$1.50. Emerson Bean, Crediton, Ont. Please mention this paper.

ROSE-COMB Rhode Island Reds—Have the best of stock and a heavy-laying strain. Eggs, \$1.50 per thirteen; \$2.50 per twenty-six. C. Cuthbert, Alton, Ont.

RHODE Island Reds—Rose-comb. Best general-purpose fowl in the market. Eggs for hatching from imported heavy-laying strain. Two dollars for fifteen from number one pen, or one fifty from number two. B. Colwell, Box fifty, Cookville, Ont.

SINGLE-COMB Black Minorcas—Stock and eggs for sale. Ontario winners and great layers. Satisfaction guaranteed. For particulars write: H. Dunning, Thornton, Ont.

SINGLE-COMB Brown Leghorns—Fifteen eggs, one dollar; one hundred eggs, four dollars. Also some fine cockerels cheap. Isaac Reed, Ardrea, Ont., Simcoe County.

S. C. W. LEGHORNS—Eggs for hatching, \$1 per 15. H. McKellar, Tavistock, Ont.

S. C. W. LEGHORNS—Prizewinning and great laying stock. Eggs, \$1.00 per 15. A hatch guaranteed. Geo. D. Fletcher, Binkham P.O., Ontario.

SILVER-LACED WYANDOTTES—Eggs for hatching, one dollar for thirteen. Geo. N. Harris, Lynden, Ontario.

SINGLE-COMB Brown Leghorn eggs from prizewinners. \$1.00 for 15. H. Weston Parry, Princeton, Ont.

WHITE Wyandottes Exclusively—Bred for heavy eggs production and standard points. Eggs, \$1.00 per 15. Good hatch guaranteed. Thos. F. Pirie, Banner, Ont.

WHITE Wyandottes (Martin and Russell strain), Rose-comb Rhode Island Reds. Eggs, fifteen, \$1.25; thirty, \$2.00. Hatch guaranteed. A. & D. McTavish, Chesley, Ont.

WANTED—A few private farmers to ship me Poultry, Eggs, Dairy Butter, Syrup, and all other farm produce. Will pay highest market price. W. J. Falle, Prince Albert Ave., Westmount, Montreal.

WHITE Wyandottes. Eggs, \$1.25 per setting. C. W. Beaven, Prescott, Ont.

WHITE Wyandotte eggs—From choice matings, \$1.50 per 30 in Morgan crates. W. A. Bryant, Cairngorm, Ont.

WHITE ROCK eggs at \$1.50 per setting; R.C. Rhode Island Red eggs at \$2; also some choice cockerels of both breeds for sale. Howard Smith, Winona, Ont.

WHITE Rocks, Buff Orpingtons. Choice prize-winning strains. Eggs, \$1 per setting. Wm. A. Rife, Hespeler, Ont.

WHITE Rocks—Big, pure white layers, \$1 per setting. O. B. Holden, Beamsville, Ontario.

WHITE Wyandottes. Choice breeding females. A few good cockerels. W. D. Monkman, Bond Head, Ont.

WHITE WYANDOTTE—One grand cockerel, \$3.00, from Martin's best eggs. A. F. Post, Colpoys Bay, Ontario.

86 A HUNDRED buys the finest White Leghorn eggs for settings. Original utility birds from Curtis Bros. E. C. Dunston, Crystal Beach, Ont.

Pleasant Valley Farm offers WHITE WYANDOTTE EGGS for hatching from 2 pens of grand winter layers. Large white birds. \$1.00 and \$1.50 per 15, \$4.00 and \$5.00 per 100. G. AMOS & SONS, Moffat, Ont.

Imported Indian Runner Ducks A few choice Indian Runner Ducks and Drakes for sale. The original fawn and white strain, and very select. Also eggs for setting. Pri on application. H. R. HARRISON, Importer and Breeder, Ridgeway, Ont.

WANTS AND OFFERS

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.

CHOICE selected seed potatoes (Carman); heavy yielders; Al sample. Satisfaction guaranteed. Write Mervyn W. Meek, Port Stanley, Ontario.

FARM FOR SALE—Near Windsor, N. S., 44 acres; 44 have been cultivated; 8 cultivated last year. Address, V., Windsor, Nova Scotia.

FARM TO RENT—On Blackstone Lake, Parry Sound District; good land and buildings; will rent cheap to good tenant. For particulars apply to J. P. Weeks, Parry Sound, Ont.

FOR SALE—Rubber and leather belting, pulleys, shafting, hangers, iron pipe. All sizes and lengths. Write for free list and prices, stating sizes. Imperial Waste & Metal Co., 7 Queen St., Montreal.

GOVERNMENT STANDARD SEEDS—Red Clover, \$9.00; Mandscheuri Barley, 75c.; Silver Mine, White Siberian, Scottish Chief oats, 50c.; Golden Vine Peas, \$1.00; bags extra. Ask for samples. The Caledonia Milling Co., Ltd., Caledonia, Ontario.

IF interested in growing strawberries send for my catalogue; it's free. Tells you how to grow them. Jno. Downham, Strathroy, Ontario.

TONGUE support for harvesting machines, seed drills, etc.; takes weight off horses' necks; 500 sold in one county. Agents wanted. S. K. Brubacher, Elmira, Ont.

TREES FOR SALE—Over 100,000 evergreens, the biggest and best stock in Dominion. Sizes from 10 inch to 10 feet. Prices range 5 cents and upwards. Shade trees, fruit trees and bushes, flowering shrubs, roses, clematis, etc. Chas. Baker, London, Ont. Phone 2222.

WANTED—Persons to grow mushrooms for us. Small waste space in yard, garden or farm can be made produce from \$15 to \$25 per week. Write for illustrated booklet and full particulars. Montreal Supply Co., Montreal.

WE have on hand at present twenty thousand 3-in. tile and a quantity of 4-in. and 6-in., which we wish to dispose of in car-load lots. Correspondence solicited. Bechtels, Limited, Waterloo, Ont.

WANTED—Two married men—a farm hand and a herdsman. Houses supplied. State wages. Apply to J. A. Pettit, Freeman.

WANTED—A good steady farm hand. State wages and experience. Address, Robt. Almond, Meaford, Ont.

WATCH HER GROW!

Daniel O'Connell Lively, of Portland, Oregon, who is somewhat of a booster himself, tells a story of two Seattle boosters who met in Portland.

"Hello, Bill."
"Hello, Jim."
"When'd you come down from Seattle?"
"I left yesterday morning."
"I came down last night, and say, Bill —"
"What?"
"Jee-rusalem! You ought to see her now!"

Do you remember the old story of the man who walked along the street one day carrying a basket on his arm? A friend said to him: "What is in the basket, Tommy?"

"A mongoose," said Tommy.
"You see, my brother has been drinking hard, and lately he has been bothered by rats and pink mice and spotted snakes, and other venomous creations. Now, a mongoose just eats those things alive, see? So I'm taking this mongoose to him to kill those rats and snakes."
"But, Tommy," said the friend, "don't you know those are imaginary snakes?"
"That's all right," said Tommy. "This is an imaginary mongoose."

GOSSIP. LAST CALL FOR BENNING'S AYRSHIRE SALE.

The dispersion sale, to take place on April 20th, of the noted Glenhurst herd of 80 head of Ayrshire cattle, the property of James Benning, Williamstown, Glengarry County, Ontario, should interest Ayrshire breeders and dairy farmers throughout the Dominion. This is one of the oldest and one of the best-working herds of this great dairy breed in Canada, having been bred for size, constitution, type and production. It is also, numerically, one of the largest herds of the breed in the country, and has produced many notable prizewinning animals at the leading shows, including the World's Fair at Chicago. As the catalogue indicates, the breeding of the herd is of the very best, while for quantity and quality of milk, the cows rank high in their records. In the sale of so large a number, there will, doubtless, be bargains going, and the event will prove a favorable opportunity to secure new blood or foundation stock. Note the date, April 20th, and send for the catalogue.

MORE HOLSTEIN RECORDS.

Newspaper reports tell of yet another phenomenal official seven-day record of a Holstein-Friesian heifer in New York State, which, at the age of 2 years 11 months and 23 days, is said to have produced in a seven-days' test over 80 pounds of milk a day, and a total of 29.27 pounds butter. The result of this test has not been officially communicated to us up to date of writing, and is, therefore, given as subject to correction. A good three-year-old Canadian record is sent us by an anonymous Bruce Co. (Ont.) correspondent, who calls himself "One of Your Subscribers." He reports that William Muhlhauer has a pure-bred Holstein cow, three years old last September, which, in a seven-days' official test, had yielded 512 pounds of milk, testing 4 per cent.; equivalent to 23 1/2 pounds butter.

REVISED LIVE-STOCK BREEDERS' DIRECTORY.

The branch of the Live-stock Commissioner at Ottawa has issued a revised edition of the Directory of breeders of pure-bred live stock in Canada. According to the preface page, the work is a compilation of information received through correspondence from breeders in all the Provinces in regard to the size of their breeding herds, and the number of males and females of the several breeds they have for sale. The Directory is prepared to assist persons in locating herds, studs and flocks in their respective neighborhoods, or in distant Provinces from which pure-bred animals may be procured. Copies will be sent to ranchmen, stock breeders, secretaries of farmers' institutes, agricultural societies, live-stock associations, and others who may apply for them.

"Where have you been for so long?" asked the head man of the menagerie.
"Been watching one of the animals clear his throat, sir," replied the attendant.
"But does it take half an hour for an animal to clear its throat?"
"Yes, sir; it was the giraffe, sir!"

Mica Roofing advertisement featuring an illustration of a barn with a roof being worked on. Text includes: "Mica Roofing", "For steep or flat roofs, waterproof, fire-proof; easily laid; cheaper than other roofing. Send stamp for sample, and mention this paper.", "HAMILTON MICA ROOFING COMPANY, 101 REBECCA STREET, HAMILTON, CANADA."



MOVING PICTURES OF DAN PATCH 1:55

ABSOLUTELY **FREE** POSTAGE PAID

If you are a Farmer, Stockman or Poultry Raiser and correctly answer, in your postal card or letter reply, the specified questions.

THIS IS THE LATEST SENSATION AND GREATEST TRIUMPH IN THE GREAT MOVING PICTURE ART.

It is a *New Invention* that you can carry in your pocket and show your friends instantly, day or night, either once or a hundred times, and without a machine, curtain or light. It is the first successful moving picture ever taken of a World Champion Horse in his wonderful burst of speed. The original film contains

2400 INSTANTANEOUS PICTURES OF DAN PATCH

and every picture shows the King of all Horse Creation as plainly as if you stood on the track and actually saw Dan Patch 1:55 in one of his thrilling speed exhibitions for a full mile, 2400 distinct moving pictures taken of Dan in one minute and fifty-five seconds means twenty-one pictures taken every second all of the way around the entire mile track from the back seat of a high power automobile. You can see Dan shake his head to let his driver know that he is ready for a supreme effort and then you can watch every movement of his legs as he flies through the air with his tremendous stride of 29 feet. You can see his thrilling finish as he strains every nerve to reach the wire, you can see his driver dismount and look at his watch while thousands of people crowd around, you can see his caretaker force his way through the crowd and throw a beautiful woollen blanket over Dan to prevent his catching cold and then you can follow him up the track before the madly cheering multitudes. As a study of horse motion it is better than the actual speed mile because you can see Dan right before you for every foot of the entire mile. When first shown to the public this marvellous picture caused people to stand up all over the theatre calling "Come on Dan"—"Come on Dan."

This remarkable moving picture is the most realistic and the most thrilling ever presented to the public. We have taken a part of these 2400 wonderful and sensational pictures and made them into a *Newly Invented Moving Picture* that you can carry in your pocket and show to your friends at any time, day or night. It does not need a machine, it does not need a curtain and it does not need a light. It is all ready to show instantly either once or a hundred times and creates a sensation wherever shown.

THIS MOVING PICTURE WILL BE MAILED TO YOU ABSOLUTELY FREE, WITH POSTAGE PREPAID, IF YOU ARE A FARMER, STOCKMAN OR POULTRY RAISER, AND CORRECTLY ANSWER THE THREE QUESTIONS.

YOU MUST ANSWER THESE 3 QUESTIONS IF YOU WANT THE MOVING PICTURES FREE

1st. In what paper did you see my Moving Picture Offer? 2nd. How many head each of Horses, Cattle, Sheep, Hogs and Poultry do you own? 3rd. How many acres of land do you own or how many acres of land do you rent?

I will not mail this wonderful moving picture of Dan Patch 1:55 free unless you are a Farmer, Stockowner or Poultry Raiser and unless you correctly and honestly answer the three questions.

IF YOU ARE NOT A STOCKOWNER AND WANT THE MOVING PICTURES SEND ME 25 CENTS.

In silver or stamps to pay postage, etc., on Moving Pictures. I will mail this wonderful Moving Picture of Dan Patch 1:55, the fastest harness horse the world has ever seen,—to you if you send me Twenty-five Cents in silver or stamps even if you do not own any stock or land. It costs about \$2700.00 cash to have one of the original pictures taken and reproduced. **Write me to-day so that you will be sure to secure one before my supply is exhausted.**

Largest Stock Food Factories in the Entire World
Cash Capital Paid in \$2,000,000

Address

E. B. SAVAGE, Proprietor of
INTERNATIONAL STOCK FOOD CO., TORONTO, CAN.



LET THE EXPERIENCE OF THE MAJORITY OF FARMERS BE YOUR GUIDE IN BUYING TWINE

THE time has come to order your binder twine for the 1910 harvest. Twine dealers are placing orders for their season's stock. The mills are running. Now is the time for you to decide the twine question. It is something that requires careful consideration. The success of your harvest will depend on the uninterrupted work of your binder, for no binder can work well if you use a cheap grade of binder twine.

It is our aim to have every farmer who uses IHC twine go through the 1910 harvest season without a break in the field. We have much more at stake than merely selling twine. Your interests and ours are the same.

We know that the raw materials from which IHC twines are spun have the quantity and quality of fibre that insure greater strength than is found in any other twine. They are evenly spun—smooth running—do not tangle in the twine box—work well in the knoter, insuring perfect binding and perfect tying. They insure your being able to work your binder through the entire harvest season with greatest speed and economy and are therefore practical profit insurance.

Those who buy cheap twine will certainly have trouble—delays due to tangles, knots and breaks will mean the loss of valuable time—and every delay at harvest time will cut down your profits.

There is a sure way to avoid this. Let the experience of the past be your guide in purchasing your twine. The verdict of the majority of the farmers of this country is a safe guide. Their decision should have more weight with you than the statement of any twine manufacturer. These farmers know. They have the same problems confronting them that you have. They have no axe to grind. They do not sell twine. They are only interested in results.

I H C Brand of Sisal—Standard Sisal Manila or Pure Manila

Are the twines used by the majority of the farmers of this country. They have been proved to give the best results. Eighty-five to 90 per cent of the farmers use Sisal. It is smooth running and works at steady tension without kinking or tangling in the twine box—insuring perfect binding and perfect tying. Its only equal is the really high grade Manila twines such as bear the IHC trade-mark.

Your interests and ours are identical on this twine proposition. We have more at stake than selling twine. We are vitally interested in the successful operation of hundreds of thousands of binders. On their successful operation depends our success—and we know they cannot operate successfully with poor twine. No binder made can. For this reason we have given the twine problem careful study. When we say "Stick to Sisal or high grade Manila bearing the IHC trade-mark"—we do so because we know them to be the highest standard of excellence in binder twine.

But we don't ask you to do as we say. We want you to be the judge. But your judgment to be right should be based on facts—not on the statement of any twine man. And the fact is—that the majority of the farmers of this country use IHC twine. Sisal or Standard (which is made from pure Sisal) comes 500 feet to the pound; high grade Manila, 600 feet to the pound; Pure Manila, 650 feet. See your local IHC dealer at once and let him know how much you will need. If you want more facts on binder twine, write the International Harvester Company of America at nearest branch house for information.

CANADIAN BRANCHES—Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg, Yorkton.

International Harvester Company of America Chicago USA
(Incorporated)



It is not so much the being exempt from faults, as the having overcome them, that is an advantage to us.—Alexander Pope.

Maple Villa Yorkshires and Oxford Downs

For immediate disposal. A number of choice young boars ready for use. Some splendid sows bred to farrow in May, and others of breeding age. An excellent lot of ewe lambs. Satisfaction assured. J. A. CERSWELL, BOND HEAD, ONT., BEETON OR BRADFORD STATIONS.

TRADE TOPICS.

THIS IS THE SEASON FOR PAINTING for protection of buildings from the effects of weather and the ravages of time. In this connection, attention is directed to the advertisement in this paper of The Martin-Senour Co., of Montreal, indicating the quality of their pure paint sold by dealers. See the advertisement and write the company for their illustrated booklet, "Home Beautiful," and color card.

After a year's lapse, the Canadian and Military Horse Show of 1910, to be held in the Armories, Toronto, April 26th to 30th, promises a distinct improvement on any of its predecessors. The horsemen, it is said, are coming back to work with a zeal that cannot but produce results. Interest is by no means local. Ottawa and Montreal are to be well represented, while London and St. Catharines will be heard from as usual. Altogether, the show of 1910 is aiming to be a record-breaker.

INFORMATION ON FERTILIZERS.—Among the many useful little booklets published by the Dominion Agricultural offices of the Potash Syndicate, the latest to hand is a revised edition of "Artificial Fertilizers: Their Nature and Use," by B. Leslie Emslie, F.C.S., P.A.S.I. The first edition, which consisted of an excellent series of articles that appeared in the columns of "The Farmer's Advocate" during February and March, 1908, met with such acceptance as a simple and comprehensive treatise on the use of commercial fertilizers that it was decided to issue a second edition, supplemented with an article on methods of home-mixing and applying commercial fertilizers, from "The Farmer's Advocate" of March 17th, 1910. In a short preface, the recent progress in fixation of atmospheric nitrogen by electrical process is also noted. Altogether, this brochure now constitutes a most valuable handbook for fertilizer users. A copy lies in the right-hand drawer of our editor's desk, and is consulted by him more frequently than any other publication on the subject of commercial fertilizers. Another booklet just to hand from the same source, is entitled "Records of Fertilizer Experiments," being an account of results obtained during 1907, 1908, 1909, in some co-operative tests with material supplied by the Potash Syndicate. Some of the results are very striking in favor of potash as an element in fertilizer mixtures. Both these, as well as many other booklets, may be had on application to the Dominion Agricultural Offices of the Potash Syndicate, 1102-1105 Temple Building, Toronto, Ont. Please mention this paper.

GOSSIP.

The imported Hackney stallion, Whitehall Dane (8703), by Danbury, dam by Danegelt, is advertised to be sold by auction, at Caledon East, Ont., on Wednesday, April 20th. Caledon East is a station on the Georgetown to Allandale branch of the G. T. R., and two miles from Mono Road, C. P. R.

James Henderson, of Belton, has recently sold to C. W. Crummer, of Wallaceburg, Ont., the imported six-year-old Clydesdale stallion, Brave Nelson (8786) (12872), by Prince Tom, by Prince Thomas, champion at leading shows in Scotland, and sold at auction for \$4,500. Mr. Crummer is to be commended for his enterprise in securing so good and well-bred a horse, and the farmers of Kent and surrounding counties are fortunate in having the use of such a worthy sire.

Official records of 154 Holstein-Friesian cows were accepted by the American Holstein Association from March 6th to March 17th, 1910. This herd of 154 animals, of which one-third were full-aged cows, produced in seven consecutive days, 61,931.8 lbs. of milk, containing 2,177.076 lbs. of butter-fat; thus showing an average of 3.52 per cent. fat. The average production for each animal was 402.2 lbs. milk, containing 14.137 lbs. of butter-fat; equivalent to 57.4 lbs. or 27.5 lbs. milk per day, and 164 lbs. of the best commercial butter per week.

GOSSIP.

WOODBINE HOLSTEINS.

Woodbine Stock and Dairy Farm, the property of A. Kennedy, Ayr, Ont., situated about four miles south of Ayr, C. P. R., and about five miles north-west of Paris, G. T. R., is connected with long-distance 'phone, and particularly well equipped for the breeding, care and handling of the large herd of Holstein cattle and their milk products. This great herd was established 25 years ago, on the best foundation then procurable, and has always been headed by sires rich in official backing, with the inevitable result that the herd to-day show the effect of that careful selection of stock bulls in their ideal dairy type, big, well-balanced udders and large-producing ability. None of them in Mr. Kennedy's hands have been officially tested, but they certainly are capable of great things. Many of the herd over one year of age are daughters of that richly-bred bull, Sir Mechthilde Posch, sired by Sir Abbeker Posch, whose dam, Altje Posch, made the biggest two-day public test ever made in Canada, namely, 8.6 lbs.; he is also a brother to the two great cows, Alta Posch, 27 lbs. in seven days, as a two-year-old, and Mercena 2nd, 27 lbs. in seven days. The dam of this bull is Anthony's Jewell Mechthilde, who also has a record of 27 lbs. The present stock bull is Sir Creamelle, a son of Duchess Ormsby Hengerveld De Kol Prince, many of whose daughters are now in the official records, he by Duchess Ormsby Prince, the sire of Queen Ormsby, whose seven-day record is 28.393 lbs., with a butter-fat test of 5.13 per cent. Duchess Ormsby Prince is also a son of Duchess Ormsby 3rd, whose record is 22.33 lbs., and she is the dam of Duchess Piebe De Kol, whose record is 29.44 lbs., and her dam is Duchess Ormsby, whose record is 24.44 lbs. The dam of Sir Creamelle's sire is Duchess Ormsby 2nd's Hengerveld De Kol, with a record of 19.013 lbs., as a two-year-old. She is a daughter of Duchess Ormsby 2nd, with a record of 21.313 lbs., and she in turn is the daughter of Duchess Ormsby, who has five daughters with records that average 19.967 lbs. The dam of Sir Creamelle is Creamelle Hengerveld, record 21.257 lbs. in seven days, and 86.33 in thirty days, as a two-year-old; her sire is a grandson of De Kol 2nd, whose record is 26.57 lbs., and her dam is a sister to De Kol Creamelle, whose record is 28.131 lbs. A perusal of the above will show the intensive breeding of this bull through several generations, which must tell in his get, for certain it is that the Ormsby strain of Holsteins is par excellence the greatest producing strain of the breed. For sale are a number of bull calves sired by this great bull; also a number of two- and three-year-old heifers sired by the former stock bull.

TRADE TOPIC.

VANCO LIME-SULPHUR AND LEAD ARSENATE.—Lime-sulphur mixture and arsenate of lead, are very favorably recommended by Mr. Caesar in his excellent series of articles in "The Farmer's Advocate," on insects and fungi attacking fruits. For all sprayings after the first, they may be combined; for the first it is unnecessary, as the lime-sulphur mixture is sufficient. Vanco Brand of lime-sulphur, in concentrated strength, and Vanco lead arsenate, may be purchased ready to put together and apply to the trees, from The Chemical Laboratories, Ltd., 144-146 Van Horne St., Toronto. Vanco Brand of lead arsenate was used on our demonstration orchard last year with excellent results, and will be again. Vanco lime-sulphur is recommended with equal confidence, and the price is so low as to render it much more profitable to buy this material than to make at home, except, possibly, for the first spraying in a large orchard, where a very slight economy might be effected by home boiling. A beginner, however, should not attempt it when he can obtain commercial lime-sulphur for the reasonable prices now quoted.

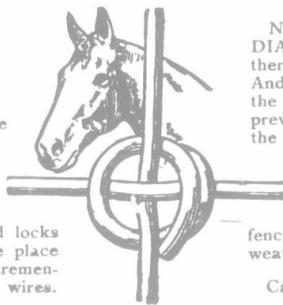
Dick—If you will give me a penny, I will show you the nearest way to the town.

Tourist—Good, my boy! Here it is.
Dick—And if you give me another penny I will show you a nearer way.

Monarch ^{Stiff-Stay} fence

The fence with no hidden weaknesses

Why do you see so many broken fence wires? Nine times out of ten they are the result of hidden weaknesses—weaknesses the purchaser was unaware existed. These weaknesses are result of inferior grades of wire—unduly kinked laterals—severely-applied locks. By severely-applied locks we mean locks driven DIRECTLY over the place where stay and strand wires cross. This tremendous direct pressure bruises and injures the wires.



This is quite apparent if you remove the lock, and is sufficient to make the wires an easy prey to frost, snow or heavy strains.

Now, in the Monarch, the lock is applied DIAGONALLY with the strand, which means there is no pressure applied at the crossing. And the ends of lock are neatly hooked over the strand wire. Thus the Monarch lock is prevented from spreading or loosening. And the fence is made of best grade No. 9 Hard Coiled Wire. Also, there is no undue kinking of laterals.

No Hidden Weaknesses in the Monarch fence. It will stand the most severe tests of weather, animal or man.

Catalogue free if you'll ask for it.

The Safe-Lock Fence

Has a "Safe-Lock" for three reasons:

- 1st.—It locks to stay where it is put—won't slip.
- 2nd.—It is made of No. 9 Hard wire, therefore is as strong and will last as long as the rest of a No. 9 wire fence.
- 3rd.—The strand wires are left absolutely straight (excepting the coil spring), and on this account are two hundred pounds stronger than a kinked wire.

For clearer illustration see detail lock. "Nuf sed" by us—you do a little comparing now.

The Owen Sound Wire Fence Co., Ltd. Owen Sound, Ontario.



More Agents Required

Energetic men will find our line of fencing and gates the best selling on the market. No other agents have two such superior and different fences as the Monarch and Safe-Lock. In comparison with other agents, our representatives have double the chances of securing an order. Just write for agency particulars.

Kills the Bugs. Feeds the Plant.



Pat. in Canada, U.S.A., Eng., Ind., Mex., etc. 200-POBODOL. PREPARED BY H. H. H. H.

We strive to combine large yield and good quality in our potato production. We believe this is your purpose also. Use

BUG DEATH

It will assist you to obtain this, at the same time it kills the bugs.

When you inquire of your dealer for BUG DEATH, see that our trade-mark is on the package.

BUG DEATH is sold in convenient packages, as follows: 1 lb., 15c., 24 pkgs. a case; 3 lbs., 35c., 12 pkgs. a case; 5 lbs., 50c., 6 pkgs. a case; 12½ lbs., \$1.00, 4 pkgs. a case; 50-lb. keg, \$3.75; 100-lb. keg, \$7.00.

If your dealer does not keep BUG DEATH, have your neighbors make up an order with you for a case or keg, and send to us, and we will have it shipped to your nearest station free of freight charges.

THE FARNHAM DUST MOTOR

Will dust BUG DEATH on your potato vines, two rows at one time, as fast as a man will walk.

BUG DEATH CHEMICAL COMPANY, LIMITED
St. Stephen, New Brunswick.



The CAPITAL is the Cream Separator that will "Buy Itself" For You.

As soon as you have read this advertisement, sit down and write a post card for The Capital book—the book that not only tells the story of the easy-running, cream-saving separator, but that tells how you can put The Capital in your own dairy practically without costing you a cent.

The book also tells all about the wonderful Capital gears, about their perfect meshing and non-wearing qualities—how they run in oil—how an automatic clutch stops them running the minute you let go of the handle—and about how they give the light, three-and-a-half-pound bowl, 7,000 revolutions a minute.

It tells how and why The Capital skims closer—why The Capital wastes less than one-fifth the cream that other separators waste—and then explains how the machine can be made sweet and clean in two minutes after you are through using it.

This book is full of hard-and-fast facts—separator facts—which every dairyman owes it to himself to know; facts which will prove a revelation to the dairyman who is not familiar with The Capital.

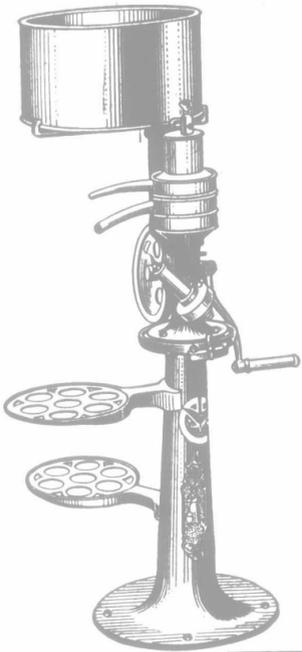
Write for the book to-day—NOW.

THE NATIONAL MFG. CO., LIMITED,

Head Office: Ottawa.

Factories: Ottawa and Brockville.

Branch Offices:—Regina, Sask.; Edmonton, Alta.; Moncton, N.B.



PLEASE MENTION THE FARMER'S ADVOCATE.

LET US PAINT NOW



It is time to get at painting. It is time to choose now. So many brands of paint are offered that you must be careful in your choice. The oldest and most thoroughly tested of all paints are

RAMSAYS PAINTS

They stand for strength, durability and beauty on thousands of homes from Cape Breton to Vancouver Island, and in foreign lands. They will beautify your home, and the price is reasonable. Drop a card and ask us for Booklet AB free. It is the handsomest Booklet ever issued on house painting. You should have it.

A. RAMSAY & SON CO.,
THE PAINT MAKERS, - - Montreal
Est'd. 1842.



How Weather Changes Bring Death to Roofing

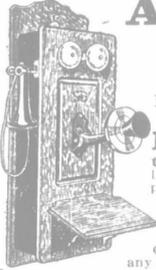
The life of Roofing is Saturation and Coating. Yet this vital part is sorely neglected by nearly every Roofing maker. The Basis of most Roofing, except Brantford, is wood pulp, jute or cotton-cloth—all short fibred. When it passes through "Saturatory Process," it does not become actually saturated—merely coated. This "Coating" is of refuse and quickly evaporates—wears off—exposing foundation to savage weather. It absorbs water and moisture, and becomes brittle, cracks, rots and finally crumbles. Even when new it softens under heat, sags and dripping. But the Foundation of Brantford Roofing is a heavy, evenly condensed sheet of long-fibred pure Wood, saturated with Asphalt, which is forced into every fibre—not merely dipped. It is heavily coated with time-defying, fire-resisting Rock Crystals, which require no painting. This special Coating cannot evaporate and protects inside. Brantford is indestructible, pliable, tight, water, weather, spark, acid, alkali, smoke, fire-proof.

Brantford Roofing



BRANTFORD ROOFING COMPANY, LTD., BRANTFORD, CAN.

Anti-Trust Prices Freight Prepaid on FARM and TOWN Telephones and Switchboards



Poles, Wire, Brackets, Insulators, Tools, Lightning Arresters, Ground Rods, Batteries, Insulated Wire, and everything necessary. **NO CHARGE** for our experts' letters of advice, drawings, explanations, instructions, telling you in any language, non-technical, just how to build, own and operate your rural, town or long distance lines in a good but economical way and at a profit, thereby getting your own telephone free.

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SHIPPING FROM MAIN YARDS ASSURES OUR CUSTOMERS PROMPT DELIVERY AND SELECTED STOCK AT LOWEST PRICES CONSISTENT WITH QUALITY AND SERVICE.

THE VALENTINE-CLARK CO.

CHICAGO, ILLINOIS.

Please Mention this Paper.

TRADE TOPIC.

DEATH TO POTATO BUGS.

There are many proprietary articles of one kind and another on the market, whose chief recommendation is that they are simple and easy to apply, their efficiency being less than that of cheaper home-prepared formulae recommended by experts. A notable exception to this rule is Bug Death, made by the Bug Death Chemical Co., Ltd., St. Stephen, N. B. As a treatment for the potato bug, this preparation can scarcely be too highly endorsed. In experiments at public stations it has proven very effective, not only against the bugs, but to a considerable extent against blight and rot as well, going to ensure a larger yield of potatoes than does Paris green. Probably one reason for this (over and above its fungicidal virtue), is that it does not harm the foliage of the potato, whereas Paris green frequently does, to a greater or lesser extent. It is also claimed to have a slight fertilizing value. However that may be, Bug Death may be confidently recommended in preference to Paris green, and the only reason it is not widely advocated by public authorities is the objection on general principles to the recommendation of proprietary articles. It is used extensively in the Maritime Provinces, in Quebec, and to some extent in Ontario, where its sale may be expected very largely to increase, now that it is being once more advertised in the agricultural press. The writer of this article has used Bug Death with results which completely overcame his initial skepticism, and this is likely to be the experience of anyone else who gives it a fair trial. While advocated primarily for potatoes, it is now claimed to be excellent to dust over trees. As to its merit for this purpose, we cannot speak from experience, but it is our intention to test it this year. It may be applied very conveniently in the form of a dust, and for potatoes, the Farnham Dust Motor may be used to cover two rows at a time, as fast as a man can walk. We strongly advise potato-growers to write the Bug Death Chemical Co. for any further particulars desired regarding Bug Death, and the Farnham Dust Motor. Please mention this paper.

GOSSIP.

PETERBOROUGH SHIRE SALE.

At a two days' auction sale of Shire horses, at Peterborough, England, the last week of March, 25 were purchased for the United States, 12 for Canada and 10 for Germany; 26 sold for prices ranging from \$500 to \$1,480, the highest price of the sale, paid by John Nix, for the two-year-old stallion Black Friar 3rd. The three-year-old filly, Alvechurch Countess, sold for \$1,325, to Lord Rothschilds.

John McFarlane and W. H. Ford, Dutton, Ont., report having made the two following sales of Shorthorns: To John M. Hazen & Sons, Fair Ground, Ont., the eleven-months' bull, Gordon, out of imported cow, Tidy Lass, which comes of a grand milking strain, and to Alex. Cameron, of Ekfrid, Ont., a sixteen-months' bull, out of Imp. Lady Bess. Both of these animals are of the right type, and give every promise of usefulness. Messrs McFarlane & Ford offer a number of other young bulls of similar breeding and quality.

QUESTIONS AND ANSWERS
Miscellaneous.

CEMENT PAINT.

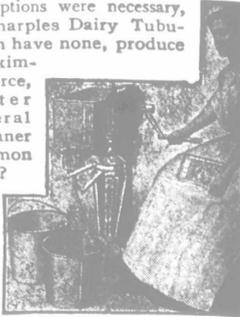
Kindly give recipe for making a cheap paint for fences, etc., composed of milk and some other substances.

Ans.—Take some Portland cement, put in a suitable can or pail, and add enough coloring to make it of desired shade. Stir well so as to get the color thoroughly mixed with cement, then add enough milk (whole milk being best) to make the cement of the consistency of rich cream, and apply with an ordinary paint brush. Venetian red coloring or red oxide may be used. Do not 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 with a paddle.

CHOKER HIM On Facts

When you get tired hearing agents or makers of common cream separators excuse the needless disks or other contraptions they use, just choke them on facts that disprove their claims.

If contraptions were necessary, how do Sharples Dairy Tubulars, which have none, produce twice the skimming force, skim faster and several times cleaner than common separators? Why do Tubulars probably replace more common separators than any one maker of such machines sells? Why do Tubular sales easily exceed most, if not all, others combined? Why is the manufacture of Tubulars one of Canada's leading industries? These facts are invincible proofs that Tubulars are The World's Best.



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THE SHARPLES SEPARATOR CO.
Toronto, Ont. Winnipeg, Man.

Money Loaned with Privacy

Loans quickly made on improved Farm and City property. No publicity. No extra charges for renewals. Lowest current rates of interest. Easiest terms of repayment. Land inspected free. Call or write.

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Cowan's Perfection Cocoa

Is absolutely pure, strong and healthful. Delightful in flavor, nourishing, economical. Cocoa should be boiled three or four minutes in either milk or water to produce best results.

The Cowan Co. Limited,
Toronto.

When Writing Mention The Advocate

Four minute Records for the Edison Phonograph



When Mr. Edison invented the Amberol Records he invented the longest Record ever made for a sound-reproducing machine. But the Amberol Record is not only longer; it is better. It is made from a new composition which makes a more perfect reproduction of music or the voice than any known method.

An Amberol Record in an Edison Phonograph is the most perfect reproduction of a song or a piece of instrumental music that you have ever heard.

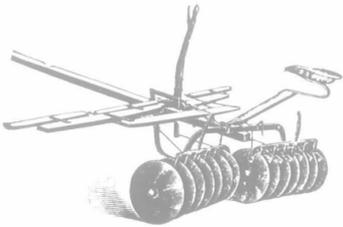
But do not accept our statement. Go and hear it. There is a dealer near you. Hear the Edison Phonograph and compare it with other instruments before you decide. We will leave it to your judgment as to whether you can buy anything for the price that will give you so much real, genuine fun and pleasure as the Edison Phonograph.

Edison Phonographs \$16.50 to \$162.50 Edison Amberol Records (twice as long) .55
Edison Standard Records .40 Edison Grand Opera Records .85
There are Edison dealers everywhere. Go to the nearest and hear the Edison Phonograph play both Edison Standard and Amberol Records. Get complete catalogs from your dealer or from us.
NATIONAL PHONOGRAPH COMPANY, 100 Lakeside Avenue, Orange, N. J., U.S.A.

Buy the Harrow with the greatest capacity and the lightest draft.

The "Bissell"

Thousands of Canadian farmers have tested the "Bissell" Disk Harrow in the same field with other makes, and found that the "Bissell" has the greatest capacity and lightest draft. Because of the special shape of "Bissell" Plates they cut into the ground easier. They turn all the soil, whereas other disks only scrape it or set it on edge. The "Bissell" does clean work where others make a ragged job of it. Steel scrapers meeting the edges of the plates "chisel-fashion" and "movable" clod-irons keep the machine free from dirt or trash. The "Bissell" stays right down to its work. It won't bind, buckle or hump up in the centre no matter how stiff or hard the soil may be. It is built to withstand the hardest usage. A simple method of balancing the driver's weight removes neck weight. It is the harrow you should know more about. So write to Dept. W for catalogue, or see your local dealer.



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Company, Limited
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SANITARY CHURN

There's no comparison between the ordinary wooden churn and the "EUREKA". Barrel is stoneware—top is clear glass. Besides being absolutely sanitary, the glass top enables you to see how the churning is coming along without opening the churn. Also made with Aluminum top.

The "EUREKA" is the easiest churn on the market to operate. By tilting back the frame until the weight rests on the wheels, the churn can be quickly and easily moved—while the barrel remain upright.

If your dealer does not handle the "EUREKA," do not take a substitute but write us for catalogue.
EUREKA PLANTER CO. LIMITED, WOODSTOCK, ONT.



QUESTIONS AND ANSWERS. Miscellaneous.

BEE QUESTIONS.

1. When a swarm issues, does the old queen or the young one go or leave?
2. Is it too early to take bees out of cellar?
3. How often will I have to cut out queen cells to prevent swarming?
4. Do you like the idea of clipping the queen's wings?
5. Will a swarm cluster on queen trap, if trap with queen in it is put amongst the flying bees, and for how long?

C. H. H.

Ans.—1. The old queen goes with the first swarm, when, after swarms are permitted to issue, they are accompanied by young queens a few days old.

2. No; not if the weather is suitable for them to fly. A rule is to take out bees when willows, maples, etc., commence to yield pollen. If the bees are uneasy in cellar, they should be taken out, pollen or no pollen.

3. Cutting out queen cells to prevent swarming is not very reliable, nor much practiced. If you cut out cells twice, and the bees still insist on swarming, let them do so. This, for reasons that take too much space to explain here.

4. Yes; it is good practice. Keeps colonies from absconding; and makes it easier to find queens, etc.

5. Yes; if the bees notice the presence of the queen in the trap. Sometimes the bees will commence to return to their hive before enough bees have found her present in the trap suspended in the air. Don't leave the swarm clustered on the trap any longer than necessary. The bees may break cluster to leave, and, finding their queen not with them, they may return to the parent hive, or scatter about among other colonies.

By the way, a good bee book, which you can get from this paper, would explain much more fully all the questions you have asked. F. A. S. Wisconsin.

SEED FROM MARITIME PROVINCES—USE OF WEEDER ON MANGELS.

Is it true that grain brought from the Province of New Brunswick or Prince Edward Island, yields better than Ontario seed? What are their seasons like? How would these potatoes from New Brunswick, the Green Mountains, do here? I was thinking of going over the mangels this spring with a weeder, just as they break through, to destroy weeds. If I broke off young shoots, would they grow again? Where is this weeder made? If early potatoes are nipped with frost when four inches high, will they grow again vigorously? H. G.

Ans.—I have not found that grains brought from the Province of New Brunswick, or from Prince Edward Island, yield better than Ontario seed, but they may do so in individual cases. The seasons in the Maritime Provinces are later in opening up in spring, and the grains are harvested somewhat later than in Ontario.

The Green Mountain potatoes, which are grown quite extensively in New Brunswick, have not given as good returns in several years' experiments at Guelph, as the Empire State, or the Rural New Yorker No. 2.

If some of the teeth of the weeder are removed, so as to prevent injury to the young mangel plants, this implement might be used to good advantage in stirring the surface of the ground when the plants are yet quite young. This method can frequently be used to good advantage when the mangels are planted on the level, but it does not work quite so well when they are planted on ridges.

If early potatoes, when four inches high, are nipped with frost, I would consider that they would likely grow again, but not so vigorously as if they had not been frozen. Much would depend, of course, on the severity of the frost.

C. A. ZAVITZ.

Note.—Much as we should like, for the information of readers, to publish the address of manufacturers of the implement, we simply dare not do so, as this would open the way to a flagrant abuse of our editorial columns. The firm should have enterprise enough to advertise.—Editor.

Had Weak Back.

Would Often Lie in Bed For Days, Scarcely Able To Turn Herself.

Mrs. Arch. Schnare, Black Point, N.B., writes:—"For years I was troubled with weak back. Oftentimes I have lain in bed for days, being scarcely able to turn myself, and I have also been a great sufferer while trying to perform my household duties. I had doctors attending me without avail and tried liniments and plasters, but nothing seemed to do me any good. I was about to give up in despair when my husband induced me to try Doan's Kidney Pills, and after using two boxes I am now well and able to do my work. I am positive Doan's Kidney Pills are all that you claim for them, and I would advise all kidney sufferers to give them a fair trial."

DOAN'S KIDNEY PILLS are a purely vegetable medicine, realizing quick, permanent relief, without any after ill effects. A medicine that will absolutely cure Backache and all forms of Kidney and Bladder Disease.

Price, 50 cents per box, or 3 for \$1.25, at all dealers or The T. Milburn Co., Limited, Toronto, Ont.

In ordering specify "Doan's."



"ELECTRO BALM" CURES ECZEMA,

Also Piles, Burns, Scalds, Chapped Hands and Face.

Gentlemen use it after shaving. This Balm is handled by the best firms, and is highly recommended by those who have used it.

Write for Free Sample
50c. a Box at all Dealers or upon receipt of price, from
THE ELECTRIC BEAN CHEMICAL CO., Ltd., OTTAWA.

An East Tennessee girl is credited with the following reply to a question as to whether she had been to the fair:
"I didn't want, I didn't want to go; and, if I had wanted to go, I couldn't have gotten to gwine."

THEY TOOK HIM OUT OF HIS BED

Dodd's Kidney Pills Cured Mr. F. McAuliffe's Lumbago.

Lachute man, after fourteen years' Suffering, finds Health and Strength in an old reliable Kidney Remedy.

Lachute, Que., April 11.—(Special.)—After fourteen years of suffering, which started from pleurisy, followed by dropsical swellings, and culminated in Lumbago, and confined him to his bed, Malachi F. McAuliffe, a well-known resident of this place, has entirely recovered his health, and he says, without hesitation, "I am sure I owe it entirely to Dodd's Kidney Pills."

"I was laid up with Pleurisy, which affected my kidneys," Mr. McAuliffe continues. "I suffered a great deal of pain, especially in my back. I was also terribly troubled with dropsical swellings, and, finally, after many attempts to get rid of my trouble, I found myself compelled to give up, and was confined to my bed with Lumbago. I tried many medicines, but they failed to do me any good. Then I turned to Dodd's Kidney Pills, and after taking one box I felt greatly relieved. I took several more boxes and found myself completely cured."

Dodd's Kidney Pills always cure any and all forms of Kidney Disease.

STEADY AS A ROCK! THE SQUARE GEAR Magnet Cream Separator

Skims perfectly sitting on the ground or floor.
The double-supported bowl cannot wobble.

At our expense you can study MAGNET construction in your own dairy.



Why not buy a MAGNET at first and avoid trouble.
The MAGNET is fifty years away from the scrap heap.

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Winnipeg. St. John, N. B. Regina. Vancouver. Calgary. Montreal.

Just sit down and write us for full particulars of the best business proposition you are likely to hear this year. Let us tell you, in plain words, how very little money will start you in the profitable business of poultry-raising The Peerless Way. Let us show you why it will pay you well to

One PEERLESS user will sell 200-000 fowl this year

Scores and hundreds—ten thousand people in fact—all over Canada, are following The Peerless Way to their profit. More than eleven million dollars' worth of eggs were sold in Canada last year. Yet with all this output prices stay high for every sort of good poultry and eggs. The market is far bigger than the present product—and it grows bigger day by day. Poultry-raising is the best business for any farmer, any farmer's child. Pays better for the time and money invested. Profit is sure. Isn't over-crowded—and never will be.

Poultry ought to be a side-line on every farm

The poultry-crop is the one crop that never fails. Every farmer certainly ought to make poultry a side line, at least—it is a certain profit for him, no matter how bad a year he may have with his other crops. And the Peerless customer need feel no worry about finding a market for all he wants to sell in the way of poultry or eggs. We look after that for him. We find him a buyer who pays the best market prices in spot cash.

Your credit with us makes it very easy to start

Your credit is perfectly good with us. You can equip yourself fully for successful poultry-raising, and you don't need ready money to do it. We trust you; and we will make the terms so easy for you that you will never feel the outlay. In fact a Peerless outfit pays for itself, and quickly, too.

We carry ample stocks in our big distributing Warehouses at Winnipeg, Regina, Calgary, Edmonton and Vancouver, for the convenience of our Western friends. Address all letters to Head Office at Pembroke, Ontario. They will receive prompt attention.



NEW POTATO—EUREKA 1st EARLY

Four bushels from eleven tubers. White flesh and a good keeper. One of the best. **Peck's Early**—Very like E. Ohio, but double the crop. **Sir Walter Raleigh**—One of the best medium varieties (white). **Naught Six**—A little on the Rural N. Y. No. 2 style, but a better flesh potato than E. N. Y. ever was. If you want good pleasing potatoes, try any of the \$1 bushel. Special price on 10-bushel lots. Also **KOSIS** and **SHRUBS**. We ship direct to customer with satisfaction. Send for Catalogue. (30¢ year.)

A. G. HULL & SONS, ST. CATHARINES, ONT., CANADA.

You will find its frame strong and rigid

It is run by square gears, and you know that all good machines are built that way.

Its steel bowl is supported at both ends (MAGNET Patent).

All other separator bowls have only one end steadied.

The skimmer in one piece (easily cleaned) takes out all the butter-fat, and also separates the slime and foreign matter.

The MAGNET Cream Separator delivers good thick cream every day.

The MAGNET Brake circles the bowl, stops it in eight seconds, preventing wear and saves time.

The MAGNET owner can increase the capacity, when he gets more cows, for a few dollars, by changing bowl and skimmer only.

No matter what cream separator a man experiments with or buys, he will finally settle down to the MAGNET, and when he does his separator troubles are at an end.

The MAGNET is fifty years away from the scrap heap.

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adopt the Peerless methods, to make use of the advice and aid of the Peerless Board of Experts—pay you well, and profit you speedily.



Let us ship you this and trust you for it. We pay freight and give you a 10-year guarantee

PEERLESS users get valuable help and service free

Besides finding a buyer for our customers' poultry-products (which we do free of any cost to you) our Board of Experts stands ready always to advise, counsel, help with practical suggestions—free, entirely so, to Peerless users. These practical men have developed the greatest poultry business in Canada—The Poultry Yards of Canada Limited. Long experimenting in the hatches of this great plant brought the Peerless to perfection, and proved it as the one successful incubator for use in every section of the Dominion.

More than 10,000 PEERLESS users are successful

Poultry-raising with the difficulties taken out of it—that is the reason why The Peerless Way has proved profitable for over ten thousand people, scattered all over Canada. There is not a reason on earth why it would not do as much for you as it has for the most successful of them. No matter where your farm is, you can do well The Peerless Way—and you won't need to depend much on plain farming, either.

Send right away for interesting offer and FREE very valuable information.

You will know why The Peerless Way is the way to get profit from poultry, once you have read the big and plain-spoken free book we want you to ask for. With the book will come an offer to outfit you for poultry profit on terms that will meet your wishes and fit your means. Please write and ask for this now—make your start now—it will pay you to.

BOOK REVIEW.

FERTILIZERS AND MANURES, BY A. D. HALL.

We have received, from E. P. Dutton & Co., Publishers, New York, a book entitled, "Fertilizers and Manures," by A. D. Hall, of Rothamsted. We unhesitatingly pronounce the book to be the most complete and up-to-date treatise on the subject of fertilizing or manuring; indeed, it would not be inappropriate to call it the Alpha and Omega of fertilizing, for Mr. Hall treats his subject in the most thorough manner, from his definition of the term "manure," to his description of the latest nitrogenous fertilizer, nitrate of lime. Mr. Hall reviews in detail the work of that procession of eminent scientists, Priestly, de Saussure, Boussingault, Liebig, Lawes and Gilbert, Hellriegel and Wilfarth, in elucidating the complex problems of plant nutrition.

In chapters II. to VI., he treats in the most exhaustive way the sources, manufacture, actions and values of the various fertilizers, supplying, respectively, nitrogen, phosphoric acid and potash, and deals with the functions of each of the latter in the plant. Chapter VII. is devoted to farmyard manure, its chemical and physical action in the soil, and the relative values of various kinds. Chapter VIII. deals with guanos of different origin, and some organic forms of fertilizers, and chapter IX., with the use of lime and other substances of indirect fertilizing value. In chapter X., various theories of fertilizer action are discussed, and in chapter XI. systems of fertilizing and rotating crops reviewed. Important instructions re the valuation and purchase of fertilizers are given in chapter XII., while the last chapter deals with the conduction of experiments, and rules to be observed thereby.

This book ought to be in the hands of every student and teacher of soil and fertilizer chemistry, for Mr. Hall, who occupies the position of Director of the Rothamsted Experiment Station, where extensive field tests have been continuously conducted since 1843, is second to none as an authority on this subject. It may be ordered through this office, for \$1.50 per copy, plus 15 cents extra for postage.

QUESTIONS AND ANSWERS.

Miscellaneous.

WHEN TO PLANT CEDAR HEDGE.

Would you please let me know what time in the spring to put in a cedar hedge. W. M.

Ans.—There is no better time for planting a cedar hedge than as soon after spring seeding as possible. This time varies with the seasons, but about the first of May would usually be found suitable.

CORN FOR SOILING.

1. What kind of corn would be best to sow to feed to cows about September?
2. How much would you sow to the acre in drills?
3. How many loads of manure to the acre would you put on with manure spreader, for turnips.

A SUBSCRIBER.

Ans.—1. Whatever kind of corn is found satisfactory in your vicinity for ensilage purposes.

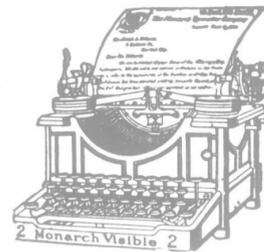
2. Not over a peck of shelled corn per acre. Test it for germination.

3. Anywhere from twelve to twenty-five tons per acre, according to the amount that can be spared.

ITCHINESS IN COLTS.

I would like to know how to stop colts from rubbing and biting themselves. Hair is coming off in patches. They rub mane and tail. Colts are fed well and doing well, and I have treated them for lice. J. M. C.

Ans.—Clip them, and then try washing thoroughly with strong, warm soft-soap suds, afterwards rubbing with cloths until dry. Then dress daily, being sure to get the fluid well upon the skin, with corrosive sublimate 40 grains, to water 1 quart. This material is strong poison, remember. Or use in a similar way a five-per-cent. solution of one of the coal-tar dips.



In the rush hour—the hour in which nine-tenths of the vitally important letters and documents must be written—a typewriter operator must have absolute and complete confidence in her machine. Such confidence in the

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is established through perfection of mechanical construction and a lively sense, on the part of the makers, of the demands of the age.

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KENDALL'S SPAVIN CURE



is the remedy you can depend on. No other preparation has done so much for the horse and the horseman.

Kendall's Spavin Cure has saved millions of dollars for thousands of owners during the past 40 years. It is the quick, sure, safe cure that never fails to give the best results even when all other treatment may prove a failure.



cures Spavin, Curb, Splint, Ringbone, Swellings, Bony Growth, Cuts, Sprains, Bruises and all Lameness.

Kendall's Spavin Cure makes a complete and lasting cure because it cures the cause of the trouble.

It leaves no scars or white hairs because it does not blister.

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should have a bottle of Kendall's Spavin Cure—the best liniment in the world for man and beast. No telling when you will need it. Get it now and you will have the right remedy when the emergency arises.

\$1 a bottle—6 for \$5. At all dealers. Ask for free copy of our book "A Treatise On The Horse"—or write us.

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J. B. HOGATE,
Weston, Ont. and
Brandon, Man.
W. D. COLBY, Mgr.
Weston, Ont.

Seldom See

a big knee like this, but your horse may have a bunch of bruise on his Ankle, Hoof, Stifle, Knee or Throat.

ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. \$2.00 per bottle, delivered. Book & E free. ABSORBINE, JR., for mankind, \$1 and \$2. Removes Painful Swellings, Enlarged Glands, Gout, Wens, Bruises, Varicose Veins, Various Sores, Itchy Pains. Your druggist can supply and give references. Will tell you more if you write. Book free. Manufactured only by W. F. YOUNG, P. D. F., 158 Temple St., Springfield, Mass. Canadian Agents: Lyman's Ltd., Montreal.

HIGHLY-BRED CLYDESDALES FOR SALE

Always on hand, stallions, colts, mares and fillies. The champion stallion, "Baron Howes" (13847), was purchased from this stud. Apply to

JOHN R. BEATTIE,
Baroch Farm, Annan, Scotland.

QUESTIONS AND ANSWERS.
Veterinary.

CALVES WITH COUGH.

Calves have a hacking cough; breathe with difficulty. A sort of phlegm issues from mouth, and they lie stretched out flat a great deal. T. W. D.

Ans.—The symptoms indicate catarrh, which is generally caused by damp, cold surroundings. Get a liniment made of 3 parts each of oil of turpentine and raw linseed oil and one part liquor ammonia fortier. Rub their throats twice daily with this until it commences to blister. In the meantime keep throats wrapped with flannel bandages. Give internally, three times daily, a small teaspoonful of the following: 3/4 lb. chlorate of potassium, 1/4 lb. nitrate of potassium and 2 ozs. quinine. Keep comfortable in dry quarters, and feed well. V.

FATALITY IN PIGS.

Sow had 10 pigs. When two days old she refused to allow them to nurse. When she lay down she would lie so that they could not nurse. All the litter died. My neighbor says the pigs had long, sharp teeth, and these should have been broken off. D. G.

Ans.—We cannot tell why sows or other females sometimes refuse to allow their young to nurse. We notice individual cases in all classes of animals. In some cases an attendant can, by holding the sow in position for the pigs to nurse, occasionally break her of her aversion to her young. When this cannot be done, the only means of saving the litter is to raise them by hand. If the pigs irritated or punctured the teats with their teeth, the teats should be either extracted or shorn off. The appearance of the teats would indicate whether or not this was the trouble. V.

QUINSY IN PIGS.

I have a litter of pigs 4 weeks old. A week ago some of them began to breathe heavily and quickly, and appear to be clogged up in their noses. Two have died, and the other 7 have the disease. My larger pigs, weighing about 200 lbs. each, act about the same. They seem to be choked up, and have to open their mouths to breathe. These get better in about a week. I have other litters a few days old. A. R. W.

Ans.—The symptoms are those of quinsy, a disease and swelling of the glands of the throat. It is very hard to treat, and treatment is often unsuccessful. The patient must be cast and his mouth held open by inserting a clevis or something of the kind, and the swollen glands scarified with a sharp knife until they bleed freely, when it should be let up for fear of suffocation by blood. Apply cloths wrung out of hot water to the throat, or rub well with mustard mixed with oil of turpentine, and wrap the throats with flannel bandages. Swab the nostrils frequently with equal parts oil of turpentine and sweet oil. It would be wise to isolate the fresh litters. Keep dry and comfortable, and allow regular exercise. From the foregoing you may decide whether to attempt treatment or not. V.

Miscellaneous.

QUANTITIES OF GRAIN FOR MIXTURE.

I would like to know, through your columns, how much of each kind of mixed grain to sow per acre, such as oats, beardless barley, peas and flax; soil, sand and gravel loam. H. A. S.

Ans.—Using the varieties of farm crops mentioned in your letter, I would suggest the following amounts of seed of each per acre: Oats, 25 lbs.; beardless barley, 20 lbs.; peas, 30 lbs.; and flax, 15 lbs., or a total mixture of 90 pounds of seed per acre. At the Agricultural College, Guelph, we have used a great many different mixtures, including the four grains mentioned in the above inquiry. We have found, however, that we have obtained the greatest yield of grain per acre from a mixture of one bushel (48 lbs.) of the Mandsehour barley, and one bushel (34 lbs.) of the Pamhony oats, or a total of 82 pounds of the mixed grains per acre. C. A. ZAVITZ.

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- SWEENY,
- BONY TUMORS,
- LAMENESS FROM SPAVIN,
- QUARTER CRACKS,
- SCRATCHES,
- POLL EVIL,
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MY NEW IMPORTATION OF Clydesdale Stallions and Fillies are now in my stables at Markham, Ont., and, as usual, I have a big range for selection, of a type, breeding and quality seldom equaled, never excelled, by any previous importation. Call and see them. Phone connection. T. H. HASSARD, Markham, Ont.

CLYDESDALES AND HACKNEYS We have still for sale several good Clydesdale Stallions; also our prizewinning Hackney Stallion Blanch Surprise, and a few good Clydesdale and Hackney Mares. All of which will be sold on reasonable terms. Phone connection. JOHN A. BOYD & SON, Bayview Farm, Queensville, Ont.

ORMSBY GRANGE STOCK FARM, URMSTOWN, P. QUE. I have arranged to make a special importation of yearling and 2 year-old fillies this spring for the benefit of those wishing to obtain pedigreed stock at cost price. Those wishing to co-operate with me in this, should write me at once; the saving will be about one half of the prices charged by agents in Canada. Duncan McEachran. My object is to promote Clyde breeding in Canada.

IMPORTED CLYDESDALES AND HACKNEYS In my stables at Ingersoll, Ont., I have always on hand Clydesdale stallions and fillies, and Hackney stallions, personally selected in Scotland, for their high-class type, quality and breeding. Let me know your wants. W. E. BUTLER, INGERSOLL, ONT.

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The first edition of "Truth About Roofing" has been completely exhausted. So we have been compelled to publish a second edition of this famous booklet. This is an improvement on the first edition. It goes right to the "heart" of the roofing problem. It tells the truth about wooden shingles, prepared roofing, slate and steel shingles. It shows the cost per year of service of the different roofing materials, which is the only method of arriving at a correct conclusion as to which material is the best roofing investment. It explains the British Government's Acid Test and our Free Lightning Guarantee.

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The information contained in this booklet we believe is accurate. We have taken pains to see that every statement we make can be verified. You can rely on this booklet to guide you right in the choice of roofing materials. We should really charge you something for this booklet, but we will send it FREE as a reward to all who fill in, cut out and mail the coupon to us by return mail.

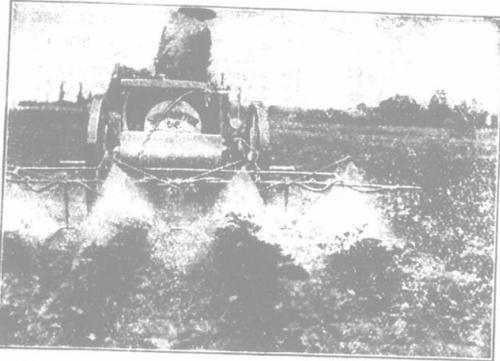
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spraying potatoes, three nozzles to a row and four rows, two spraying from the sides and one from the top, adjustable as to height and width up to 40-in. rows. Nozzles absolutely will not clog. 12-gallon air tank, automatic and hand controlled; 100 lbs. pressure guaranteed with 12 nozzles open. An acre can be sprayed in 20 minutes. Has agitator clean-out pressure relief into tank, and nozzle protector all under control of the driver from seat. For one or two horses. Fitted for orchard, vineyards and grain. This ad. will not appear again in this paper.

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The largest, best equipped and most sanitary stables in Canada. Half-mile of railway loading chutes at stable door. Quarter-mile open track for showing horses. Northwest trade a specialty. **HERBERT SMITH, Manager.** (Late Grand's Repository.)

CLYDESDALES and HACKNEYS

We have for sale a few choice Clydesdale mares, imported and Canadian-bred; also some Canadian-bred Clydesdale stallions. Hackney stallions and mares for sale always. Long-distance phone. **Hodgkinson & Tisdale, Beaverton, Ont.** G. T. R. and C. N. R.

IMPORTED CLYDESDALE FILLIES
I have still on hand six Clydesdale fillies. They are big, smooth fillies, exceptionally well bred, and their underpinning is the kind Canadians like. I have only one stallion left, a right good one. My prices are as low as any man's in the business. Phone connection. **GEO. G. STEWART, HOWICK, QUEBEC.**

Imported Clydesdales
My first importation for 1910 has just arrived. Stallions up to a ton in weight, from 1 to 5 years of age. Draft character and faultless underpinning are a predominating feature. Also a few big choice fillies 2 and 3 years of age. **WM. COLQUHOUN, MITCHELL, ONT.** Phone connection.

WAVERLY CLYDESDALES AND HACKNEYS
My 1910 importation of Clydesdale stallions and fillies, and Hackney stallions and fillies, are now in my barns. One and two-year-old Clyde fillies of a character and quality never before excelled. My Hackney stud was never so strong in high-class animals. All are for sale and prices right. **ROBT BEITH, BOWMANVILLE, ONT.**

Clydesdales Home from the Shows
Intending purchasers would do well to see them before buying. Prices moderate. **Myrtle, C. P. R. SMITH & RICHARDSON, Columbus, Ont.** Brooklyn G. T. R.

Imported Clydesdales
My new importation of Clydesdale stallions for 1910 have arrived. They were selected to comply with the Canadian standard, combining size, style, quality and faultless underpinning with Scotland's richest blood. They will be priced right, and on terms to suit. **C. W. BARBER, GATINEAU PT., QUEBEC.**

CLYDESDALES, Imported and Canadian-bred. I have on hand 2 Imported Clydesdale Stallions, one 4, the other 5 yrs. old; 2 Canadian-bred Clydesdale Stallions, one 2, the other 3 yrs. old; one French Coach Stallion, 4 yrs. old; one Shire Stallion, and the noted Hackney Stallion, Chocolate Jr. I will sell these horses cheap for quick sale. **T. D. Elliott, Bolton, Ont.**

QUESTIONS AND ANSWERS. Miscellaneous.

BOG SPAVIN.

I have a valuable mare, three years old, that has a bog spavin sprung on her recently. I have blistered twice, but swelling does not seem to go down much. The leg is swollen all around joint, but mare is not lame. Can it be cured? If so, by what method?
FARMER.

Ans.—Bog spavin can be cured in most cases by blistering once a month as long as necessary. Use for blister two drams each of biniodide of mercury and cantharides, mixed with two ounces vaseline. Clip the hair off the parts; tie the head so that he cannot bite them; then rub well with ointment daily for two applications, and on the third day wash off, and apply sweet oil.

CEMENT WATER TANK.

I am going to build a cement water-tank. I want it about twelve feet long and to hold about fifteen barrels. How strong with cement would you make it? Is it a good plan to put barbed wire in it? If so, how would you put it in?
A. R. W.

Ans.—Concrete for water tanks had better be mixed about 1 to 5, and after the forms are taken away, both inside and outside should be given a wash of pure cement and water. Wire, either plain or barbed, should be imbedded in the retaining walls of tank. Put in plenty, every foot or so a double or triple thickness, and as nearly in circular form as the rectangular shape of tank will allow without being exposed at either outer or inner sides.

JOINT ILL.

What are the symptoms of joint ill? What is good to prevent it coming on, and what is good to cure it?
SUBSCRIBER.

Ans.—Joint ill in colts is caused by a specific germ, which finds entrance usually at the navel. The symptoms of the disease are soreness and stiffness of the limbs, and swellings around the joints, which increase in size as the disease progresses. Preventive measures are the chief hope. These consist in keeping the stall or box clean, and specially in attention to the navel as soon after birth as possible, and several times daily until it dries up. It should be dressed with an antiseptic and germicide such as a five-per-cent. solution of carbolic acid, or of 30 grains of corrosive sublimate to a pint of water, or formaldehyde liquid solution, one part to ten parts water. Curative treatment consists in long-continued bathing of affected parts with hot water, followed by rubbing with camphorated liniment, and in giving foal 5 to 10 grains iodide of potassium in a little of the mother's milk four times daily. Mare should be well fed, and foal helped up to nurse once every hour.

GOSSIP.

Wm. Meharey, Russell, Ont., near Ottawa, advertises for sale a choice five-year-old imported Clydesdale stallion, weighing a ton, good color, and a proven sire of first-class stock.

THE PARDO SHORTHORN SALE.

Among the females in the dispersion sale of T. L. Pardo & Son, Cedar Springs, to be held May 3rd, is the grand breeding cow, Canadian Roan Lady 2nd, a dual-purpose cow, and a breeder of show stock; she has a roan bull calf at foot, calved September 31st, 1909, that will make a herd-header; also Canadian Roan Lady 3rd, calved December 1st, 1908, a solid red, heavy-fleshed, mossy-coated heifer, that will make her mark in the show-ring if fitted, both sired by Spring Valley Chancellor—63868.

Lady Dorothy 41st (imp.), a prizewinner at the Canadian National in 1903, as a yearling, a very large, heavy-fleshed cow, and one of the very best breeders in the herd. Her heifer, Lady Dorothy 43rd, a dark roan, sired by Favourite (imp.), is a grand individual, and a credit to any herd; also Lady Dorothy 44th, sired by Carnegie (imp.), a red three-year-old, due to calve before the sale, a right good one in every respect. Remember the date, and send for catalogues.

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New importation of Clydesdale, Shire and Hackney Stallions, all of which are for sale at reasonable prices. The Clydesdales comprise such horses as King's Friendship (14724), by Hiawatha Godolphin, by Hiawatha; King's Lynn (14204), by Acme, by Baron's Pride; King's Model (14206), by Sir Hugo, by Sir Everard; Hector (11371), by Murchison, by Sir Everard; Coynachie (11314), by Baron Macgregor, by Macgregor. Write, or come and see **WM. MOSSIP, St. Mary's, Ont.** Phone connection.

Peachblow Clydesdales and Ayrshires!

CLYDES—2 four-year registered stallions, one imported. Ayrshires—3 very choice bull calves, all registered. All good colors, and from good milking dams. Prices right.

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Gerald Powell, Commission Interpreter, **Nogent Le Roi, France,** will meet importers at any port in France or Belgium, and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking and pedigrees. Many years' experience; best references; correspondence solicited.

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Will weigh a ton. Is smooth, a beautiful color, and a leaving choice stock.

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Three years old; 15½ hands; chestnut; hind feet white. Sire Commodore 3rd, imp., (6695), by Chocolate Jr. (4185). Dam Ada Adair (181), by Robin Adair 2nd, imp., (3807). For description, terms, etc., address: **G. W. CLEMONS, ST. GEORGE, ONT.**

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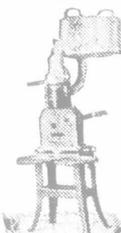


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MEAL added to water, half a pound to six quarts, makes a fuel which CONTAINS ALL THE ELEMENTS of nutriment found in a like quantity OF FRESH MILK. There is no other food save fresh milk itself which contains so much nutriment for calves and young pigs. We are convinced that this is the best article of its kind and want you to use it. It is made in England by an honorable firm and you can "bank" on their word. Give it a trial.

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**DOMO SEPARATOR COMPANY,
Brighton, Ontario.**

QUESTIONS AND ANSWERS.
Miscellaneous.

SEED FOR RENTED FARM.

When a farm is worked on shares, who provides the seed, including timothy and clover? Is there any law on this question, or is it just as the parties may agree together? W. D. D.

Ans.—It is a matter for agreement. It is usually to the advantage of the owner to purchase seed, then he can see that foul seed is not sown. It is to the tenant's advantage to have it stipulated that a good and sufficient quantity of seed be provided.

SEED FOR PASTURE.

I have a pasture lot of one hundred acres, but there are about fourteen acres that have been cropped last year. Now I want to know the best seed to use to sow this spring to make pasture this summer, and also to last for pasture for some years. The land is rather light, sandy soil, and not in very good condition. Would rye make a good pasture, sowing some kind of grass with it? N. B.

Ans.—For your fourteen acres of land which was cropped last year, and on which you want to sow a mixture this spring for pasturing in 1910 and for some years to come, I would suggest the following varieties and amounts per acre: Oats, 51 lbs.; common red clover, 2 lbs.; alsike clover, 2 lbs.; alfalfa, 5 lbs.; orchard grass, 5 lbs.; and meadow fescue, 5 lbs. This would make a mixture of 19 pounds of clover, alfalfa and grass seed per acre. If the small seeds were sown quite early in the spring, with a bushel and a half of oats per acre, it would likely be ready for pasture by the middle of June. I think you would be able to get a good catch of grass and clover, and one which would stand a considerable amount of pasturing for a few years. I cannot suggest any mixture which would likely give better results on the land referred to than the one here mentioned. C. A. ZAVITZ.

GRAFTING QUERIES—RENEWING RHUBARB—OVERFEEDING YOUNG PIGS.

1. Kindly tell what is a good recipe for grafting wax?
2. How to graft on apple and plum stocks?
3. How to produce large rhubarb stalks from rhubarb which once bore large stalks, but now is small. The land is a rich clay loam.
4. Is overfeeding of young pigs dangerous if the feed is strong? W. D. B.

Ans.—1. To make grafting wax, get ingredients in the following proportion: Resin, 4 pounds; beeswax, 2 pounds; tallow, 1 pound. Melt together in a pot over a fire and mix thoroughly, then pour into water in a tub or large vessel, and when cool enough, pull like taffy. The more it is worked the better.

2. Budding is more commonly practiced with plum trees than is grafting, though the latter is sometimes successful if done early in the season. The process is the same as with apple stocks. Scions of last year's growth must be secured before buds have started. The limb or stock to be grafted is cut off with a fine saw. It is then split with a knife, and the split held open by a narrow, chisel-shaped part of the grafting-knife being driven into the center of the split. A large nail would serve the purpose. The scions, cut to two or three buds in length, having been first whittled at the lower end to a smooth, wedge-shape an inch or more in length, and slightly thicker on one edge than the other, are inserted, one at each side of the stub. The thicker side of scion should be set outwards, and with the line between bark and wood, matching the same line in stub. Pull out the center wedge and allow the stub to grip and hold the scions. Wax thoroughly, covering stub end and side splits, so that all air is excluded.

3. To renew rhubarb, dig up the roots, divide into smaller pieces, and replant in a fresh place. A few of the old plants might be left to supply the family for the first season.

4. Overfeeding of young pigs with any kind of food is dangerous, but especially so if food is heavy and rich. Combined with want of exercise, it has caused the crippling and chocking of many pigs the past winter.

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Both clean and fire-proof—no dust and dirt falling, as from plaster ceilings. Costs no more, but looks thrice as artistic. The life of a plastered or papered ceiling is short and nearly every year needs repairs. Our *Metallic Ceiling* will last as long as the house—always fresh and clean. We can send you hundreds of pretty designs to select from for both ceilings and walls.

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"Really I don't know how people can stand the constant drudgery necessary to keep the ordinary ceilings and walls clean. Metallic is so clean and sanitary."—The Philosopher of Metal Town.



Ring-Bone

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Fleming's Spavin and Ringbone Paste to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cure. Works just as well on Saddlebone and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of

Fleming's Vest-Pocket Veterinary Adviser Ninety-six pages of veterinary information, with special attention to the treatment of blemishes. Durable, bound, indexed and illustrated. Make a right beginning by sending for this book. FLEMING BROS., Chemists, 75 Church St., Toronto, Ontario

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Canada's Greatest Show Herd
For sale: 6 young bulls and a number of young females, bred from imported and show stock. None better. Prices right.
W. H. HUNTER,
Orangeville, Ont., P.O. & Sta.

HOMESTEAD ABERDEEN-ANGUS

Two extra good bull calves left, 9 and 11 months old; also females, all ages. Will be priced low to sell this month.
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Long-distance Phone.

FOR SALE: SOME NICE YOUNG Aberdeen-Angus Bulls

and some females of all ages. Also a first-class Clydesdale stallion. **J. W. Burt, Coningsby, Ont.**

ABERDEEN - ANGUS

Will sell both sexes; fair prices. Come and see them before buying. Drumbo station.
WALTER HALL, Washington, Ont.

Aberdeen-Angus Cattle—Stock all ages, good strains, at reasonable prices. Apply to **ANDREW DINSMORE, "Grape Grange" Farm** Clarksburg, Ont.

Imported Clydesdales Imported and Canadian-bred Clydesdale mares and fillies, from 1 to 5 years of age, of most fashionable breeding, up to a big size, with character and quality. A large range for selection. Phone connection. **Alex. F. McIven, St. Thomas, Ont.**

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is smooth surfaced. No top dressing to add weight without substance.

The presence of sand, flint, mica, pebbles or similar surfacing means the absence of body that should be there to insure permanency and make the material

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Fac-simile of the "RUBEROID MAN" is stamped on every Roll of Genuine and the word "RUBEROID" appears every few feet on the underside of the material.

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Better than a Mustard Plaster. Does Not Blister.

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Balmedie Polled Angus and Oxford Down sheep — Offering several exceptionally nice heifers, and a few young bulls. Discriminating buyers will be pleased with my herd. Anything in the herd will be priced. Also ram and ewe lambs. **T. B. Broadfoot, Ferguson P. O. and Station.**

Maple Grange Shorthorns

An offering of an extra choice lot of 1-, 2- and 3-year-old heifers. Scotch and Scotch-topped, Clarets, Nonpareils, etc., sired by Royal Bruce, imp., and among them are daughters and granddaughters of imp. cows. Young bulls also for sale. **R. J. DOYLE, Owen Sound, Ont.** Phone connection.

GLENGOW Shorthorns

Have two excellent bulls left yet, both about ten months old, and good enough for any herd; also a number of choice heifers, all ages. For particulars write to: **Wm. Smith, Columbus, Ont.**

SHORTHORNS, Berkshires, Cotswolds.

About 50 Shorthorns on hand, including 9 bulls from 9 to 12 months, also young heifers and cows. No Berkshires or Cotswolds to offer at present. **CHAS E BONNYCASTLE, Station and P. O., CAMPBELLFORD, ONT.**

Shorthorns, Clydesdales and Oxford Down Sheep. Scotch Shorthorns: Several red bulls 10 months of age, by Protector, imp.; some with imp. dams; heifers 2 and 3 years of age. Clydesdale mares and fillies. Lincoln and Oxford sheep. All at reasonable prices. Phone connection. **McFarlane & Ford Dutton, Ont.**

Shorthorns and Oxford Down Sheep Young bulls and heifers of richest Scotch breeding and highest quality. Twelve ewe lambs, two aged rams and two ram lambs. None better. Phone connection. **Duncan Brown, Iona P. O., Ont.**

Three Choice Shorthorn Bulls for Sale. Show animals, choice breeding. Prices reasonable. Stock bull, Benachie (imp.). **Geo. D. Fletcher, Binkham P. O., Erin Sta., C.P.R.**

Dispersion Sale of Shorthorn Cattle!

The property of T. L. Pardo & Son, three miles west of Cedar Springs, Ont., one of the oldest-established herds in Western Ontario. Positively no reserve. On

TUESDAY, MAY 3RD, 1910

Consisting of the entire herd of 23 females and 8 bulls. Several imported, and nearly all from imported sire and dam. The foundation stock for this herd were selected from the very best herds of Scotland and Canada, with a strong view to milking qualities. Electric cars connect with all M. C. R. and P. M. trains, and will be met at Cedar Springs. Terms: Six months' credit will be given on bankable paper, or a discount of 6 per cent. per annum for cash. Lunch at noon. Sale to commence at 1 o'clock. Catalogue on application.

**Capt. T. E. Robson, } Auctioneers.
McColl & Harrington, }**

**T. L. PARDO & SON,
CEDAR SPRINGS, ONTARIO**

SHORTHORNS

Willowdale Stock Farm, Lennoxville, Que., has for sale young stock of both sexes, from his noted herd of 1,600-pound cows, descendants of Joy of Morning, Broad Scotch, etc. **J. H. M. PARKER, PROPRIETOR.**

Spring Valley Shorthorns HIGH-CLASS SHORTHORNS

Herd headed by Clipper Chief (imp.) = 64220 = (94673). If you want to get an imported bull, or a good Canadian-bred one to head your herd, be sure and write, or come and see them. Long-distance telephone. **KYLE BROS., AYR P. O., ONT.**

I have on hand young bulls and heifers of high-class show type, pure Scotch and Scotch-topped, sired by that sire of champions, Mildred's Royal. If you want a show bull or heifer, write me. **GEO. GIER, Grand Valley P. O. and station, also Waldemar station**

Meadow Lawn Shorthorns

I am offering for sale young stock, both bulls and heifers, of richest Scotch breeding, and of high-class show type. I can show some of the best young things in the country. **F. W. EWING, SALEM P. O., ONT., ELORA STATION.**

SALEM SHORTHORNS!

Young bulls and heifers, sired by the great show and breeding bull, Jit Victor (imp.), at **J. A. WATT, SALEM, Long-distance Telephone.**

For sale: 8 good bulls, 6 red and 2 roan, some sired by Royal Sovereign. Bred by the late S. Campbell, Aberdeenshire, Scotland. Most of them by Lord Gordon, bred by A. Watson, Elgin, Scotland. **L. A. Wakely, Bolton, Ont., Bolton Junction, on C. P. R., within one-half mile of farm.**

Present offering: A few females of breeding age, also 1909 young stock, both sexes, at reasonable prices. **L. A. Wakely, Bolton, Ont., Bolton Junction, on C. P. R., within one-half mile of farm.**

VALLEY HOME SHORTHORNS AND BERKSHIRES

If you want a first class Shorthorn bull or heifer come and see what we have, or if you want a show animal with a choice pedigree we have them. For description of herd see Xmas Number of The Farmer's Advocate, on last page. **S. J. PEARSON, SON & CO., MEADOWVALE, ONT., P. O. AND STATION, C. P. R.**

JOHN GARDHOUSE & SONS High-class Scotch Shorthorns

Always have for sale a number of first-class Shorthorns, Shires and Lincolns, of both sexes. Drop us a line, or better, come and see for yourself, Weston Sta., G.T.R. & C.P.R. Long-distance phone in house. **HIGHFIELD P. O., ONTARIO.**

CHOICE SCOTCH BULLS FOR SALE. HERD-HEADING QUALITY.

H. SMITH, R. R. 3, Hay, Huron Co., Ont. Farm adjoins Exeter, on G. T. R.

QUESTIONS AND ANSWERS. Miscellaneous.

FEEDING VALUE OF VETCHES.

1. How does the common vetches, or tares, compare with clover in feeding qualities?
2. Are the sandy or hairy vetches better for soiling crops than the common vetch, or are they too expensive to raise?
3. Can the sandy, or hairy vetch, be cut longer than one season? If so, for how many seasons?
4. What amount of seed to be sown per acre of hairy vetch?
5. How does the sandy, or hairy vetch, compare with clover in feeding qualities?

H. H. B.

Ans.—The common vetch, hairy vetch, and clover, will not differ very materially in feeding value, but vetches have a somewhat higher value than red clover. The hairy vetch is often sown in the fall, and cut for green feed the following season. In this way, a larger yield is obtained than when it is sown in the spring. When sown in the spring, the common vetch will give pretty nearly as good a yield of green feed as the hairy vetch, and the seed of the common vetch is very much cheaper. The hairy vetch is an annual, and can be cut only one season. For fodder, about one and one-half bushels of seed per acre is usually recommended. **G. E. DAY.**

MISCELLANEOUS.

1. Can a farmer make his butter from ten cows for 34c. a pound?
2. How many cows is one man supposed to milk?
3. I have a herd of five Shorthorns and five Jersey cows. What breed of a bull should I use?
4. Can a person register a cow if her dam was not registered?
5. Can you register a cow if you have not her pedigree?
6. In churning, how full should you fill a churn?
7. Which will butter keep better, packed in tubs or pails?
8. How many sheep could pasture on fifty acres, there being 30 or 35 acres cleared?
9. Where can I get nitro-culture to buy?
10. Give a good way to feed a young calf; have plenty of skim milk?

SUNSHINE.

Ans.—1. Not if he places a proper value on his time. Of course, if he had several daughters who could do the work as well as not, it might be advisable to make butter at home, but usually one will do better to patronize a creamery. Supposing his ten cows averaged eight pounds of butter a week, or eighty pounds altogether, which is away beyond the production of the ordinary cow, he would only be allowing himself \$2.60 a week for the labor, expense of maintaining equipment, etc. There are generally better ways of earning money.

2. As many as there are for him to milk, or as many as he can milk well.
3. Whichever breed you want to get into.
4. No.
5. You must have the pedigree in order to register.
6. A barrel or box churn should be not over half full, better not more than about one-third.
7. A glazed crock is best. If a tub or pail is used, it must be tight, so it will not leak brine.
8. We cannot answer this question satisfactorily without knowing more about the pasture, length of grazing season, etc. Just at a blind guess, we might say about a hundred.
9. Bacteriological Department, O. A. C., Guelph, or Agricultural College, Truro, N. S., will probably supply you.
10. Feed moderate quantities of sweet, clean skim milk, at a tepid temperature, until the calf is two or three months old, after which moderately-cold milk will do, though lukewarm is still better. Add to each mess of milk half a teaspoonful of flaxseed jelly, gradually increased to a teaspoonful. This is prepared by soaking the flaxseed in water (1 to 6, by volume) for about 12 hours, then boiling slowly, or simmering for several hours. Feed on a mixed ration of early-cut clover or alfalfa hay, roots, corn silage, etc. Teach it as soon as possible to eat meal, and, when this is accomplished, discontinue the jelly.

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Lump Jaw



The first remedy to cure Lump Jaw was

Fleming's Lump Jaw Cure

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

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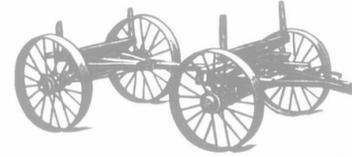
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The Dominion Low Handing Wagon saves labor and makes loading and unloading easy. Does away with high lifting, enabling one man to do work of two. Easily changed into platform wagon. Parts arranged for easiest draft. Wide-tire low wheel makes pulling easy. Guaranteed. Send for free catalogue on Handy Wagon and Dominion Steel Wheels.

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Write for Quotations

EN FAMILLE.

Willie, a little country boy, six years of age, was taken one Sunday night to a large city church, where he saw for the first time a vested choir. To his mother's surprise and gratification, he not only kept wide awake, but seemed greatly interested in every part of the service. At its close, he turned to her and said, "I like this church, it is so nice to watch the preacher when he comes out with all his wives in their nightgowns."—Harper's Magazine.

There's more strength in a bowl of

Quaker Oats

than in the same quantity or the same value of any other food you can eat.

Most nourishing, least expensive 60

QUESTIONS AND ANSWERS.
Miscellaneous.

SILO FOR EIGHT COWS.

1. About how many tons of silage would a silo 12 feet by 20 feet hold?
2. Would it hold enough to feed eight milk cows for six months?
3. What size or kind of cutting and filling outfit would you advise getting? I would want one just for my own use, as this silo, if erected, will be the first one in this part of the country.
4. About how many acres of good corn would it take to fill a silo that size?

A SUBSCRIBER.

Renfrew Co., Ont.

Ans.—1. Between 40 and 45 tons of settled silage.

2. Yes; plenty, and to spare. It would probably be wise, however, to build of the capacity mentioned above, as the erection of a silo is usually followed by an increase in amount of stock kept. Besides, any left over from winter may be used the next summer to help out bare pastures. Would recommend a different shape, though, say 10 feet in diameter and 28 feet high.

3. Get a regular ensilage cutting-box, with blower, for elevating corn. If you can hire a steam engine to run it, that is the best plan. Failing this, gasoline engine, or sweep horse-power, may be used. The size of cutting-box will depend on power used. It might be well to get a good-sized one and do work for neighbors when they follow suit and build silos for themselves.

4. Fifteen tons of corn per acre is an average yield for a good crop of ensilage corn, though the general average for the Province of Ontario is in the neighborhood of twelve tons.

ANNUAL CROP FOR CALF PASTURE—ROOTS WITH SILAGE

1. I am raising some cows and have no land seeded near the barn. What would be the best mixture to sow in the spring to pasture them on next summer?
2. I keep about twenty milking cows, and have enough silage to feed them fairly well all winter, and as I have only a small farm, I would like to grow as many sugar beets as I could feed to a profit, from October 15th to May 15th. How many should I feed to a cow per day, getting silage, clover hay and oat chop. Kindly state how many tons I would need to grow to feed twenty cows? How many acres of average crop would I need to grow?
3. Are turnips better to feed with silage than are sugar beets?
4. Feeding young cattle silage, turnips, and good oat straw, is it better to feed the straw cut?

G. W.

Ans.—1. Prof. C. A. Zavitz has recommended for summer pasture a mixture of 51 lbs. oats, 30 lbs. Early Amber sugar cane, and 7 lbs. common red clover. Writing us, he says: "We have used our summer pasture, produced by the mixture of oats, sugar cane, and clover, principally for steers, and to a limited extent for cows and younger stock. We have not used it for calves. While I cannot speak from experience, my impression is that it would give very good results as a calf pasture. I believe that the calves would eat each of the crops readily, providing they were turned on the pasture before it was too far advanced. In most seasons, I think it would be wise to start to pasture the crop with calves about four or five weeks after the seed is sown, and not leave it for six weeks, as we usually do for the two- and three-year-old steers. I would not hesitate trying the mixture as a calf pasture."

2. A half-bushel per day of sugar beets or mangels is quite enough to be profitably fed to a cow getting silage as well. Less would do nicely. An ordinary crop of stock sugar beets would be from 600 to 800 bushels per acre. Twenty cows, in 200 days, if given half bushel per day, would consume 2,000 bushels, the product of about three acres.

3. Turnips are better to feed cattle getting silage, for growth and fat, but not for milk, on account of the flavor they impart to it.

4. A portion of the straw might well be cut, to be mixed with the silage, but cattle crave some long food, and it should be given them.

New Life --- New Strength

THAT'S WHAT YOU NEED



I wish you could know for yourself the wonderful effect of the galvanic current on weak and nervous men. I wish you could realize the health and happiness that will be yours when this wonderful force infuses every nerve and vein of your body as accomplished through my treatment. I have been curing thousands every year, and have come to believe that my method will cure any curable case.

I use electricity applied to the body by means of the world-famous Dr. Sanden Herculex Electric Belt, in a steady, invigorating stream during your sleeping hours. You get up in the morning feeling as if born anew.

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Call, or write to me, and I will at once arrange to let you have the Belt on trial, not to be paid for until cured. No deposit or advance payment. Send it back if it doesn't do the work. Liberal discount for cash if you prefer to deal that way.

The world has no use for a weakling. Men must be strong to-day, or give way to those who are. There is no compromise. Strength means success. Weakness spells failure. Which will you be?

How strength is lost and how it may be regained; how to increase your earning power; how to be successful in business and popular in society; how to rid yourself of rheumatism, indigestion, lame back, etc.; how to be strong, vigorous, magnetic and happy, and make life a real pleasure; all this and much more is told and pictured in a neat little book which I am distributing free for the asking. It is sent closely sealed, without marks, to anyone sending name and address. No tire-some exercises or dope-laden drugs used.

Call, or write for one, to-day.

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275 BURLINGTON SHORTHORNS 275

3 Choice Imported Scotch Shorthorn Bulls—yearlings.
1 Imported 2-year-old Bull, red—an extra sire.
10 Bulls, 9 to 16 months old—all by imported sire.
30 Choice Young Cows and Heifers—mostly bred or have Calves at foot. Long-distance telephone. Farm 1/4 mile from Burlington Jct. Sta., G. T. R.

J. F. MITCHELL, Burlington, Ont.

SCOTCH SHORTHORNS—Eight extra good young bulls, from 10 to 15 months old; 20 choice cows and heifers, forward in calf or with calves at foot. Prices reasonable. Inspection invited.

Farms close to Burlington Jct., G. T. R.

W. G. PETTIT & SONS, Freeman, Ont.

INVERNESS SHORTHORNS—I can supply Shorthorns of all ages, with richest Scotch breeding and high-class individuality.

W. H. EASTERBROOK, Freeman, Ont.

Imp. Scotch Shorthorns—When looking for Shorthorns, be sure to look me up. Young bulls fit for service, and females all ages; bred in the purple, and right good ones. **A. C. Pettit, Freeman, Ont.**

Maple Leaf Shires, Shorthorns, Hampshire Hogs
1- and 2-yr.-old Shire stallions, females from yearling fillies up; Shorthorns, both bulls and heifers; a choice lot of young Hampshire pigs, both sexes, beautifully belted.

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Scotch Shorthorns A. Edward Meyer

P. O. Box 378, Guelph, Ont.,

Breeds SCOTCH SHORTHORNS Exclusively. Twelve of the most noted Scotch tribes have representatives in my herd. Herd bulls; Scottish Hero (imp.) = 55042 = (90065) 295765 A. H. B.; Gloster King = 68703 = 283804 A. H. B. Young stock for sale. Long-distance phone in house.

30 HEIFERS AND 29 BULLS

PRESENT OFFERING.

Bred right, made right and at prices to make you feel right. Come early and get your choice. List of these, with catalogue, will be mailed to those who ask for them.

H. CARGILL & SON, CARGILL, ONT.

Stoneleigh Stock Farm—For Sale: Short-horns, Leicesters and Berkshires. Choice young things of both sexes. Write for wants, or come and see. **E. JEFFS & SON, Bond Head P.O., Ont.** Bradford Sta., G. T. R.; Beeton Sta., G. T. R., and C. P. R.

Shorthorns and Leicesters. For sale: Choice bred young bulls, and a number of 1 and 2 year-old heifers. All got by Imp. sires, and out of grand milking dams. And Leicester rams and ewes of all ages. **W. A. Douglas, Tuscarora, Ont., Caledonia Station.**

WOODBINE STOCK FARM

Offer a number of Holstein cows, heifers and young bulls at moderate prices, sired by Sir Creamelle, whose breeding combines the blood of DeKol Creamelle, word's champion milk cow, with that of Duchess Ormsby, highest-testing family of the breed. Write for anything you want. Telephone connection.

A. KENNEDY, Ayr, Ont.

MERTON LODGE HOLSTEINS.

I am offering my entire crop of spring calves, sired by a son of De Kol the 2nd Butter Boy the 3rd. I also offer a few young cows and heifers sired by a son of Hengerveld De Kol, the greatest sire of the breed; also a number of high-grade calves sired by our imported Bull, Butter Boy Calamity.

W. W. GEORGE, Crampton, Ont.

STILL GREATER!

Grace Fayne 2nd Girl just completed a test of over 30 lbs. butter in 7 days. Dam Grace Fayne 2nd is also dam of Grace Fayne 2nd Homestead, world's record, 35.55 lbs., and Grace Fayne 2nd Sir Colantha, who heads the Homewood herd; sire's dam, Colantha 4th Johanna, 35.22 lbs. Young stock for sale. M. L. & M. H. Haley, Springford, Ont.

The Maples Holstein Herd

of Record-of-Merit cows, headed by King Posch De Kol. Nothing for sale at present except choice bull calves from Record-of-Merit cows. Also one or two good cows.

WALBURN RIVERS FOLDEN'S, ONTARIO

High-class Holsteins—Head of herd, Pietje Korndyke Lad. Two nearest dams average 26.09 lbs. butter in 7 days. His sire's dam, Pietje 22nd, has a record of 31.62 lbs. butter in 7 days. Present offering; now booking orders for bull calves sired by above sire and out of A. R. O. dams.

WM. C. STEVENS, PHILLIPSVILLE, ONT.

Ridgedale Holsteins—I have left three bull calves that will be priced right for quick sale; their dams are heavy producers, and their sire was bred right.

R. W. WALKER, Utica, Ont. Phone connection.

Please Remember to Mention "The Farmer's Advocate" When Writing

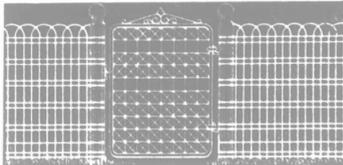
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Here's a neat, strong, durable fence that will add to the appearance of the handsomest city lawn and is cheap enough, close enough and strong enough for the farm. The

Peerless Lawn Fence

is made of heavy No. 9 steel spring wire, so it can never sag. It is carefully galvanized and coated with white enamel paint. No investment you can make will add so much to the appearance of your property.

THE BANWELL HOXIE WIRE FENCE CO., LTD., Dept. B. HAMILTON, ONT., WINNIPEG, MAN.



Also a full line of poultry and farm fences and gates. Write for particulars.

LAKEVIEW HOLSTEINS!

Herd headed by Count Hengerveld Fayne De Kol, whose sire, Pietertje Hengerveld Count De Kol, is the sire of De Kol Creamelle, the world's champion milk cow, with 119 lbs. milk in 1 day, 780 lbs. in 30 days, 10,017 lbs. in 100 days. He has five daughters that average 30 lbs. in 7 days, and 120 lbs. in 30 days. His dam, Grace Fayne 2nd, 26.30 lbs. in 7 days, is dam of Grace Fayne 2nd's Homestead with the following records:

7 days, 4 years old,	29.16 lbs.	% fat 4.12	Bull
30 " 4 " "	119.22 "	" 4.09	calves
7 " 5 " "	30.55 "	" 4.37	for
7 " 6 " "	35.55 "	" 5.42	sale.

E. F. OSLER BRONTE, ONTARIO.

CENTRE AND HILLVIEW Holsteins

140 head, 45 females in R. O. M. Herd headed by Brookbank Butter Baron, Bonheur Statesman and Sir Sadie Cornucopia Clothilde. The average of dam, sire's dam and granddam is: milk in 7 days, 562.35 lbs.; butter in 7 days, 30.58 lbs. We have bulls born Mar., '09, to two weeks old for sale, from Record-of-Merit dams. Long-distance telephone. P. D. Ede, Oxford Centre, Ont., Woodstock Sta.

Fairview Herd

offers for sale a son of Rag Apple Korndyke. His dam is a daughter of Pontiac Korndyke, with an A. R. O. record of 13.08 lbs. butter in 7 days at two years. Price, \$150.00.

E. H. DOLLAR, Heuvelton, N. Y. NEAR PRESCOTT.

Lawncrest Holsteins

or come and see us. Good railway connection. Long-distance phone.

We offer high-class R. O. M. and Record of Performance FEMALES at BARGAIN PRICES; also young stock of both sexes, with high official backing. Write,

F. R. MALLORY, FRANKFORD, ONT.

Elmwood Holsteins

Choicely-bred calves for April and May delivery. Sired by imported Ykema Sir Posch and Pontiac Sarcastic, a grandson of Sarcastic Lad. Registered. Delivered. Express paid. Safe delivery guaranteed. E. D. GEORGE & SONS, PUTNAM, ONT.

EVERGREEN STOCK FARM

offers choice young Holstein Bulls, from 10 to 11 months, sired by Sir Mercena Favorite, whose dam and gr. dam averaged 80 lbs. milk per day, and 24.60 lbs. butter per week. Their dams also in A. R. Also choice females for sale. F. E. Pettit, Burgessville, Ont.

QUESTIONS AND ANSWERS. Miscellaneous.

FAT SOW TO FARROW.

Sow, bred at five months of age, on January 8th, 1910, not supposed to be in pig, fed for pork on a mixture of corn and oats and barley, scalded, up to March 1st, fit for the butcher, now proves to be in pig. Am now feeding on a mixture of bran and ground oats, with raw roots, and giving plenty of exercise in yard. At present her weight is 300 lbs. With this feeding and treatment, would it be risky to keep her to farrow? Is it risky on account of her age? Will be 34 weeks old at farrowing time. Would you advise making into pork? There is demand for little pigs at \$2.50 each.

E. H. W.

Ans.—There would be no great risk in keeping sow to farrow, and that is what we think you had better do. The feed and treatment you are giving is very suitable indeed, though it would be well if the sow's weight could be reduced somewhat. Plenty of exercise is very important.

FEEDING POTATOES.

1. Are potatoes good feed for sows heavy in pig, and nursing little pigs? How should they be fed?

2. Are they good feed for pregnant sows? I am feeding them successfully to new milk cows. Is there any danger of overfeeding, so long as the cows do not scour?

L. F. B.

Ans.—1. Potatoes cooked so as to leave them dry and mealy, then mashed and mixed with meal, make a palatable and satisfactory hog food. We see no reason why they should not be good for sows, either with pig or suckling litters.

2. We have no experience on this point, nor can we find any very conclusive data on the subject. We should not consider potatoes a very satisfactory horse feed, however, unless fed in small quantity.

3. In some experiments on record, potatoes fed raw and sliced seemed to stimulate milk production when fed in such quantity as to furnish not over half the total dry matter consumed. Fed on potatoes exclusively, the cows shrank in weight, and after a time took their feed with repugnance.

NURSERY STOCK — TREES FOR PLANTING.

1. I have been told that nursery stock from the Ottawa district grows better in Eastern Ontario. Could you give me the name and address of a reliable nursery in that district?

2. What kind of trees are most suitable for planting around a house on limestone land, soil from one to two feet in depth? Where could they be obtained, and what is the best time for planting, and probable cost.

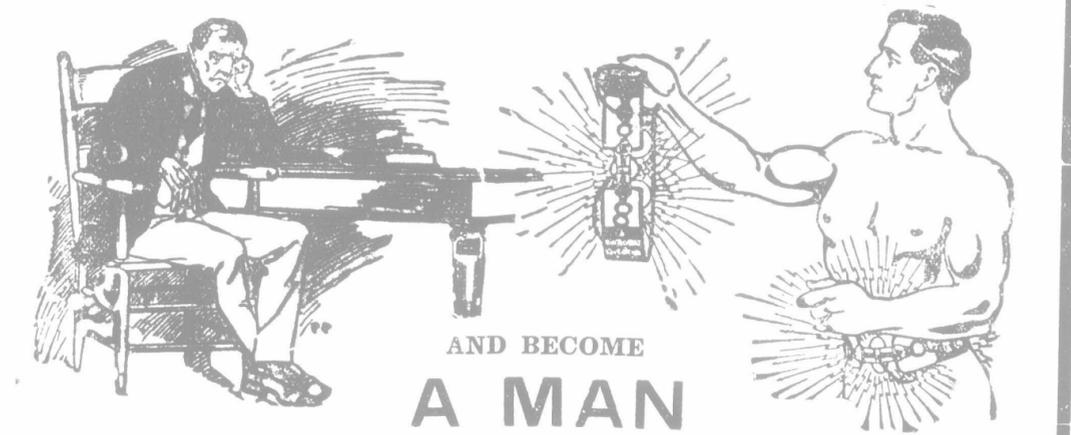
D. F. F.

Ans.—1. The kind, or variety, of tree, is more important than the part of Ontario in which it is grown. Good stock of hardy varieties is about as likely to do well if the trees have been grown in Western Ontario as if they had been grown in Eastern Ontario. Sometimes the trees make very vigorous growth in the rich soils of Western Ontario, and may not be thoroughly ripe when dug, hence are occasionally liable to suffer the first winter after planting, but on the other hand, trees grown in Eastern Ontario may sometimes be affected with "black heart," which is against them, so that there is not much choice between them. For addresses of nursery firms consult the advertising columns.

2. Trees which should succeed in the soil mentioned and be ornamental about the house, are the European Cut-leaved Birch, the European Mountain Ash, the Hard Maple, Bechtel's Double-flowering Crab Apple, and almost any variety of Crab Apple, Schwedler's Norway Maple, Ginnalian Maple, Red Oak, and Japanese Catalpa. Good evergreens are the White Norway and Blue Spruces, the White Austrian and Dwarf Mountain Pines. The best time to plant these is early in the spring, as soon as the ground is dry enough to work. The cost depends on the size of the tree planted and the variety. Prices are obtained on application to the nurserymen.

W. T. MACOIN.

TAKE THIS BELT



AND BECOME A MAN

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

Dear Sir,—I got one of your Belts some time ago for a sore back, which was very painful, and prevented me from stooping so at times I could hardly tie my shoes. Your Belt strengthened my back and took the pain and soreness away entirely. I would not take \$100 for it, and if I could not get another, I would not part with it at any price. I can recommend your Belt as a complete cure to all afflicted with this trouble.

W. McNEILL, Calhoun, Ont.

Any man or woman who will give me reasonable security, I will send them the Belt, with all the necessary attachments suitable for their case, and they can

PAY WHEN CURED

Never mind waiting until you use the last dose of that bottle from the drug store. Begin now. Call and talk your case over with me or send for my book. It costs you nothing. For over 24 years I have taught the great truth that "ELECTRICITY IS LIFE," and have proved the soundness of my doctrine by making cures when others have failed time and again. Others have aspired to do the work I am doing with my ELECTRIC BELT. They offer you electricity in some other form, or an "electric belt" that possesses no curative power whatever. They are like "boys on bladders," floundering in a sea of uncertainty—while to-day the DR. McLAUGHLIN ELECTRIC BELT stands the world over as the most correct—the most perfect method of applying Galvanic Electricity to the body that has ever been devised. Call at once or send coupon for our FREE illustrated 80-page book, from which you can learn much that you want to know. DO IT NOW.

DR. M. S. McLAUGHLIN, 112 Yonge St., Toronto, Can.

Dear Sir,—Please forward me one of your books as advertised.

NAME _____

ADDRESS _____
Office Hours: 9 a.m. to 6 p.m. Wednesday and Saturday till 8.30 p.m.

QUESTIONS AND ANSWERS.
Miscellaneous.

ONIONS ON SOD.

1. How would onions do on sod which has been down two years?
2. How would I work it, spring-tooth it till it is all torn to pieces, and then plow it down, or plow it down deep and then cultivate it?
W. V. N.
Ans.—1 and 2. Experts recommend that onions should follow some crop that has been kept under the hoe and free from weeds the previous season. It is scarcely possible to get sod land in proper condition this season, and, if attempted, the work should be very thoroughly done. The first of the methods suggested would probably be best. For profitable onion-growing, it is necessary to have land in a high state of fertility.

WILD OATS.

Will you please inform me and others in your next issue in regard to wild oats, of which you warned us? Are they a noxious weed, which will be difficult to eradicate, or only of one year's growth, perishing if cut before ripening?
J. A. G.
Ans.—Wild oats are noxious weeds. Though only an annual, yet in sections where spring cereal crops are largely grown they become a serious pest. The plant commences to shed its seeds long before the whole head is ripe, so that even if cut quite early the ground may already be polluted with them. If cut before blossoming the plant will develop fresh seed-bearing shoots very quickly. Pulling at that stage will finish it, however. General treatment recommended where land is badly infested is to drop spring grain, especially oats, from the rotation as much as possible, and have land in hoe crops, grass, or in crops in which wild oats will not ripen.

LAME MARE.

I have a driving mare that went lame in one of her fore legs last summer. There is nothing that one can see the matter with either foot or leg. I gave her a month's rest last summer, but it did not do much good. She is lame by spells. Would you advise rest, she being in foal and used to daily exercise all winter?
C. H. L.
Ans.—Your mare probably has navicular disease. This is curable in the early stages, but may develop into incurable lameness. There is no better treatment in such a case than a long rest, with shoes removed and a blister applied to the coronet once a month as long as necessary. For a blister, use two drams each of biniodide of mercury and cantharides, mixed with two ounces vaseline. Clip the hair off for two inches high all round the foot, and rub the blister well in. Tie so she cannot bite the part. In 24 hours rub well again, and in 24 hours more wash off and apply sweet oil. Turn her loose and oil every day. Whether the trouble is navicular disease or inflammation of the sensitive parts of the foot, this treatment is the best that can be adopted.

CLUB BUYING A BULL.

1. Would you advise a club of farmers to buy a bull for service who has only one testicle down, the animal being well bred and very good in every way except that? If not, for what reasons?
2. How many cows should a bull 20 months old serve?
3. Is one service sufficient?
4. How much oats should a bull on grass in summer be fed, and how much in winter, fed on hay, straw and turnips?
S. W. W.
Ans.—1. While bulls with the defect mentioned, as a rule, prove fairly sure breeders, our observation has been that some, though not a large percentage, of their sons are born with the same defect. For this reason we would not advise using such on pure-bred cows.
2. Not more than one in a day, as a rule, and better one every other day.
3. Yes.
4. With good pasture, two quarters twice a day should be sufficient. In winter, if fed good clover hay and a liberal supply of turnips, the same quantity of oats would be enough. If the pasture or the hay were inferior the grain should be increased.

Great Dispersion Sale!
80 AYRSHIRE CATTLE 80

The celebrated herd of Jas. Benning, Glenhurst Farm, Williamstown, Ont.



Wednesday, Apr. 20, 1910

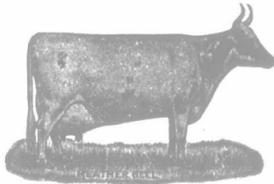
The Chicago World's Fair champions were bred in this herd. Included are Floss of Glenhurst and her five daughters, a cut of which will appear in a later issue. This herd, founded 50 years ago, is headed by Drongan Mains Guarantee, imp., (26337). Thirty of the cows have a milk test of 4.06 butter-fat. Vehicles will meet the Moccasin and noon express trains at Summers-town, G. T. R. Sale will commence at 1 p. m.

Capt. T. E. Robson, Auctioneer. JAMES BENNING, Williamstown, Ont.

Burnside Ayrshires

Having disposed of my 1909 importation, I intend leaving about March 1st for another lot. I expect to have a number of bulls through quarantine by first week of June. Orders entrusted to me will be carefully attended. We have a few young bulls fit for service on hand of choice breeding, and females of all ages. Phone, etc.

R. R. Ness, Burnside Stock Farm, Howick, Que.



AYRSHIRES AND YORKSHIRES

Can fill orders for car lots of Ayrshires, or for good grade dairy cows. Young bulls, cows, heifers or calves of choice breeding. Orders taken for imported stock for 1910. A few young Yorkshires. Write us for anything you need in above lines.

Long-distance Phone. ALEX. HUME & CO., MENIE, ONT.

Stonehouse Ayrshires

36 head to select from. All imported or out of imported sire and dam. For sale: females of all ages. Am now booking orders for bull calves.

Ayrshires—Four young bulls, all bred on dairy lines, out of famous dams; fashionable in color, as well as in breeding. Will be sold worth the money. Females all ages.

N. DYMENT, Clappison's Corners, Ont.

HILLCREST AYRSHIRES.—Bred for production and large teats. Record of Performance work a specialty. Fifty head to select from. Prices right.

FRANK HARRIS, Mount Elgin, Ont.

ISALEIGH GRANGE AYRSHIRES!

Our herd were all selected on their ability to produce a heavy yield of milk. We have a number of 40, 45 and 50 lb. cows, imported and Canadian-bred. From them are young bulls and heifers for sale. None better. JAMES BODEN, DANVILLE, QUEBEC, ISALEIGH GRANGE FARM.

Nitrate of Soda

The Modern High-Grade

Fertilizer

Cheapest, Cleanest
Odorless
Can be used anywhere on any crop
Convenient for use

Increases your farm values
\$3.00 worth of Nitrate alone on an acre of Grass has given an increased crop of 1000 lbs. of barn-cured Hay.

Prime hay has sold for \$25 per ton in New York this season.

Books on the crops which interest you will be sent free.

Send name and address on Postal Card

DR. W. S. MYERS

Nitrate Propaganda
71 Nassau Street, New York

The "STAY THERE"

Aluminum Ear Markers

are the best. Being made of aluminum they are brighter, lighter, stronger and more durable than any other. Fit any part of the ear. Nothing to catch on feed trough or other obstacle. Your name, address and any series of numbers on each tag. Sample tag, catalogue and prices mailed free. Ask for them. Address WILCOX & HARVEY MFG. CO., Dept. D, 325 Dearborn St., Chicago, Ill.

CRAIGALEA AYRSHIRES.

Present offering: One Bull, 14 months old, unbeaten at Fairs last fall; also 3, under 6 months, all from Record of Performance cows, true to type, with good teats; also a few Heifers.

H. C. HAMILL, Box Grove P.O., Markham, G.T.R., Locust Hill, C.P.R. Bell phone connection from Markham.

Shannon Bank Ayrshires and Yorkshires.

Am now offering young bulls and heifers, true to type and high in quality. Young Yorkshires of both sexes.

W. H. TRAN & SON, Locust Hill P.O. & Sta., Ont.

Ayrshires from a Prizewinning Herd—

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

STEWART M. GRAHAM

PORT PERRY, ONTARIO.
Pedigree-live-stock and real-estate AUCTIONEER.
Graduate of Jones' National School.

THE I-H-C LINE

-To Bigger Dairy Profits

BUYING a cream separator is a mighty important proposition with you. There is a vast difference between makes. So you must investigate thoroughly before you decide—in order to get the right one. I H C Cream Harvesters are invariably the choice of those who look into the merits of all separators. The I H C line offers the most advantages. The more you know about other separators—the more you will appreciate an I H C.

It is just as poor economy to own a poor separator as it is not to own any. Such machines are expensive at any price. When you buy a separator—buy a good one. It's the only kind that it pays to own. Choose one of the

I H C Cream Harvesters

—for their money-making advantages are proven. You take no chances—you do not pay for an experiment. I H C Cream Harvesters skim to a trace. You get the limit of butter-fat from the milk. An I H C Separator is simple and easy to clean. So you get quality cream—and fresh, warm, pure skim-milk for the calves. And the I H C Separator is so easy running that any member of the family can turn it without effort.

There are two styles in the I H C line—the Bluebell, gear drive, and the Dairymaid, chain drive. Four sizes in each style offer you a wide choice to select from. One of the I H C Cream Harvesters will meet your needs. No matter which one you choose, it will greatly increase your dairy profits for years to come. The materials and workmanship are perfect. See the International dealer before you buy any separator. Don't decide till you know what an I H C Separator will do for you. If you prefer—write the International Harvester Company of America at nearest branch house for further particulars.

CANADIAN BRANCHES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg, Yorkton.

INTERNATIONAL HARVESTER COMPANY OF AMERICA CHICAGO U S A
(Incorporated)

"Bronchitis."

THE SYMPTOMS ARE

Tightness across the Chest, Sharp Pains and a Difficulty in Breathing, a Secretion of Thick Phlegm, at first white, but later of a greenish or yellowish color coming from the bronchial tubes when coughing, especially the first thing in the morning.

Bronchitis is generally the result of a cold caused by exposure to wet and inclement weather and when neglected will become chronic.

Chronic Bronchitis is one of the most general causes of Consumption. Cure the first symptoms of Bronchitis by the use of Dr. Wood's Norway Pine Syrup

Miss Martha Bourget, Little Pabos, Que., writes: "Last spring I was very poorly, had a bad cough, sick headache, could not sleep, and was tired all the time. I consulted two doctors, and both told me I had bronchitis, and advised me to give up teaching. I tried almost everything but none of the medicines gave me any relief. One of my friends advised me to try Dr. Wood's Norway Pine Syrup. I had scarcely taken the first bottle when I began to get better and when I had taken the fourth bottle I felt as well as ever, my cough had left me and I could sleep well."

Dr. Wood's is the original Pine Syrup. It is put up in a yellow wrapper, three pine trees the trade mark, and the price 25 cents. There are many imitations of "Dr. Wood's" so be sure you receive the genuine when you ask for it.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

A WINDSOR LADY'S APPEAL

To All Women: I will send free, with full instructions, my home treatment which positively cures Leucorrhoea, Ulceration, Displacements, Falling of the Womb, Painful or Irregular Periods, Uterine and Ovarian Tumors or growths, also Hot Flashes, Nervousness, Melancholy, Pains in the Head, Back, Bowels, Kidney and Bladder troubles where caused by weakness peculiar to our sex. You can continue treatment at home at a cost of only about 12 cents a week. My book, "Woman's Own Medical Adviser," also sent free on request. Write to-day. Address Mrs. M. Summers, Box 821 Windsor, Ont.

MANDSCHEURI SEED BARLEY

Grown on new land from our 1908 first-prize seed field in Provincial Competition. Good, clean, medium-sized grain. Heavy yielder.

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

High Grove Jerseys and Yorkshires.

No better blood in Canada. Present offering: Two young bulls, 12 and 20 months old, respectively; females all ages. Prices and all information on application.

ARTHUR H. TUFTS, P.O. Box 111, Tweed Ont.

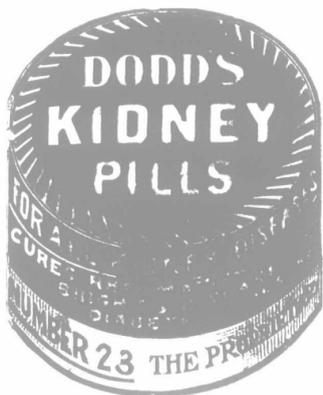
CALVES Raise Them Without Milk.

Booklet free. The Steel, Briggs Seed Co., Toronto, Ont.

"There's one thing we will have to change if these ladies who wish to vote have their way," said Senator Sorghum.

"What is that?"

"We'll have to quit talking about 'the wisdom of the plain people.'"



QUESTIONS AND ANSWERS.

Miscellaneous.

CARE AND SERVICE OF STALLION.

How should I care for and feed a stallion for service this spring? He is rising five years. How many mares should I breed to him? A. G. C.

Ans.—A short article on this subject has appeared in the Horse Department. As to number of mares, an experienced horseman who has travelled some famous stallions advises limiting a mature horse to two covers a day, three in a pinch, but not often. This, of course, is considerably less than some stallions are worked, but many are used to excess, with consequently a low percentage of foals.

IMPORTATION OF HOLSTEIN CATTLE.

Can you tell me through your paper if there is any duty on registered Holstein stock coming into Canada from the United States, and what red tape is there to be reckoned with?

OLD SUBSCRIBER.

Ans.—Pure-bred registered Holsteins are entered free of duty into Canada from the United States if the importer furnishes an import certificate to the customs officer at port of entry. In order that an import certificate may be issued, the animal must first be registered in the Canadian Herdbook, and the fees for registry are as follows: For members of the Association, \$1 for an animal under one year of age, and \$2 for an animal over one year; and for non-members, \$2 for an animal under one year of age, and \$4 for an animal over one year. The fee for an import certificate for a cow is \$5, and for a bull \$10, which, together with the fee for registration, must be sent to the Secretary, G. W. Clemons, St. George, Ont. There is no quarantine for cattle coming into Canada from the United States, but they must have a certificate from a properly-qualified inspector that they have been tested for tuberculosis and have not reacted. Full particulars regarding the tuberculin test may be obtained from Dr. J. G. Rutherford, Veterinary Inspector-General, Ottawa, Ont.

PLOWING UNDER BUCKHORN—AMBER SUGAR CANE—COWS FAIL TO BREED.

1. I purchased some grass seeds last year, of which I sowed about half, and, after harvest, I saw that nearly one-third was buckhorn. Now, as I have some seed left, would it hurt to sow it with barley this spring, and then plow under in fall, or will the roots continue on in the ground?

2. I have two cows which have been bred regularly five times, and they are not in calf. They are in fair condition, and a vet. prescription has been used without result. Do you think there is any chance of getting same in calf? Also have a pure-bred Holstein heifer, over a year old, which has been bred twice unsuccessfully. Can you suggest any treatment for her? I am anxious to have her breeding, as I keep a registered Holstein bull.

3. Please give me a little information on growing Amber sugar cane, or Sorghum. How should I prepare my ground, and how much seed to sow per acre? J. B. B.

Ans.—1. Buckhorn is a serious weed only in clover or other hay. It succumbs to cultivation. If carefully plowed under the same season as sown, that would likely be the last of it.

2. It might be well to refrain from breeding your cows for a month or two, then try them with another bull. If the heifer should continue to fail to conceive, you might have your veterinarian examine her for closure of the neck of the womb, the os. If closed, have him open it when heifer is in heat, by inserting his hand and arm, and with his finger, or a blunt, smooth instrument, widen the opening until large enough for two fingers to be inserted. Breed her an hour later.

3. Prepare the ground thoroughly as for corn, making it even finer, as sugarcane seed makes a weak start. Sow in drills 10 inches apart, using 10 lbs. of seed per acre. Cultivate the same as corn, using the hand hoe in the early stages of growth.

Shear Your Sheep this Way

and get at least 20 cents worth more wool from each one. Take the fleece off in one unbroken blanket and do not cut or injure your sheep as with the old hand shears. Do away, too, with tired, swollen wrists. You can do all of these things and do them easy by using this

Stewart No. 8 Shearing Machine

The price, at your dealer's, all complete, as shown, including 4 sets of shearing knives is only

This enclosed gear Stewart Shearing Machine has had the largest sale of any shearing machine ever made. The gears are all cut (not cast), from the solid steel bar, all file hard and run in an oil bath. The shear is the famous Stewart pattern, as used in all the large sheep countries of the world.

We guarantee this machine to please you in every way or it may be returned at our expense. Get one from your dealer. If he hasn't it, write us direct. Write for our 1910 FREE book on expert shearing. Send today. 110 La

CHICAGO FLEXIBLE SHAFT CO. Salle Ave. CHICAGO



Jerseys and Chester Whites

I am offering some choice young Jersey bulls, sired by Brampton's Blucher, winner of first prize, Toronto and Winnipeg, a d from choice, deep-milking cows with good tests. Also Chester White pigs 3 to 4 months old, both sexes, at special prices.

CHAS. E. ROGERS, Dorchester, Ont.

BRAMPTON Jerseys

CANADA'S GREATEST JERSEY HERD

We are offering for sale one 2-yr-old bull and four yearlings, fit for service; also six bull calves; females of all ages. Come and see them, or write.

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

We will pay

MUSK RATS

Very High Prices for original collections.

WRITE US NOW.

Raw Furs

Of all kinds. Write for our Complete Price Lists and SHIP NOW.

Prompt Returns. E. T. CARTER & CO., 84 Front St. E. TORONTO, ONT. We Pay Express.

Southdown Sheep

Unequaled for quality of mutton and wool, hardy constitution and early maturity.

STRIDE & SON will sell by auction at CHICHESTER, SUSSEX, ENGLAND, on

August 17th and 18th, Next.

7,000 SOUTHDOWN EWES, 600 SOUTHDOWN RAMS AND RAM LAMBS. Commissions carefully executed.

STRIDE & SON, CHICHESTER, SUSSEX, ENGLAND.

When Writing Mention The Advocate

I HAVE GREAT, THICK, ROBUST SHROPSHIRE

YEARLING AND TWO-YEAR-OLD RAMS

dale mares, and a few beautiful Welsh ponies will also be priced at attractive figures.

and a lot of grand Shropshire and Cotswold ram lambs, ewes and ewe lambs of high class, both breeds, and all of the best breeding. Will sell them in large lots or singly at prices you can afford to pay. Shorthorn bulls and heifers, two good registered Clydesdale mares, and a few beautiful Welsh ponies will also be priced at attractive figures.

Robert Miller, Stouffville, Ontario

Spring Offering of LARGE WHITE YORKSHIRES

Choice young boars ready for service. A good selection of young pigs from large imported and Canadian-bred stock. Pairs supplied not akin. Long-distance Bell phone.

H. J. Davis, Woodstock, Ont.

C. P. R. and G. T. R.

Monkland Yorkshires

son with any in Canada. We are always in a position to fill large or small orders with despatch. Long-distance phone. JAMES W. SON & SONS, FERGUS, ONT.

Willowdale Berkshires!

Nothing to offer but suckers and three extra choice young sows, bred to farrow May and June. Be quick if you want one. J. J. WILSON, Importer and Breeder, Milton P. O. and Station. C. P. R. and G. T. R.

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.

Newcastle Tamworths and Shorthorns

FOR SALE: Young sows due April and May, by imp. boar, dams by C. Will's Choice, Canada's Champion boar in 1901-2-3-5; also choice pigs, both sexes. Two yearling Shorthorn bulls, Syme and Lavender families, and six choice heifers and heifer calves. Prices right. Bel phone.

A. A. Colwill, Box 9, Newcastle, Ont.

Tamworths

Agrand lot of young boars from 2 to 4 mos. also young sows (dandies). Some just bred. Some in farrow to first-class boars from best herd in England. Prices reasonable. Chas. Currie, Morrislon, Ont.

PINE GROVE YORKSHIRES

At the late Guelph Winter Show exhibitors, including all the firsts and sweepstakes for best dressed carcasses, both at Guelph and Ottawa Winter Fat-stock Shows of 1908-09. Young pigs for sale, mated not akin, all the progeny of imparted stock of superior excellence.

Joseph Featherston & Son, Streetsville, Ont.

LABELS

Metal Ear Labels for Cattle, Sheep and Hogs.

The old standby for all who have stock liable to stray, or to dispute as to identification or ownership; for herd or flock records, or for general convenience. Send for free circular and sample. It may save you much trouble. Write to-day.

F. G. JAMES, BOWMANVILLE, ONTARIO.

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs.

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

PINE GROVE BERKSHIRES!

Sows bred and ready to breed. Nice things, three and four months old.

W. W. BROWNIDGE, Milton, C. P. R. Ashgrove, Ont. Georgetown, G. T. R.

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. D. MORROW & SON, Hilton, Ont. Brighton Tel. and Stn.

HOUSTONS and Tamworths.

With very nearly 100 sows in breeding, of modern type and high-class quality, our herd will stand comparison with any in Canada. We are always in a position to fill large or small orders with despatch. Long-distance phone. JAMES W. SON & SONS, FERGUS, ONT.

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Nothing to offer but suckers and three extra choice young sows, bred to farrow May and June. Be quick if you want one. J. J. WILSON, Importer and Breeder, Milton P. O. and Station. C. P. R. and G. T. R.

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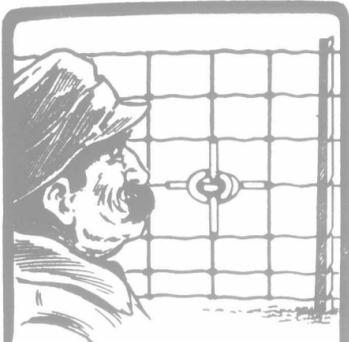
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Joseph Featherston & Son, Streetsville, Ont.



Two Good Things For Farmers

—a trouble-proof fence and a trouble-proof fencepost.

STANDARD Woven Wire Fence

is all No. 9 hard drawn steel wire, heavily galvanized—with "The Tie That Binds", which locks on the running wire and lies smooth on both sides.

OUR NEW STEEL POSTS are bent at right angles, which gives the necessary strength without the expense of solid or tubular steel.

Don't buy blindly. Learn the facts about wire fences in our book. Sent free if you write—also sample lock.

The Standard Wire Fence Co. of Woodstock Limited, Woodstock, Ont. and Brandon, Man.



The Poor Way

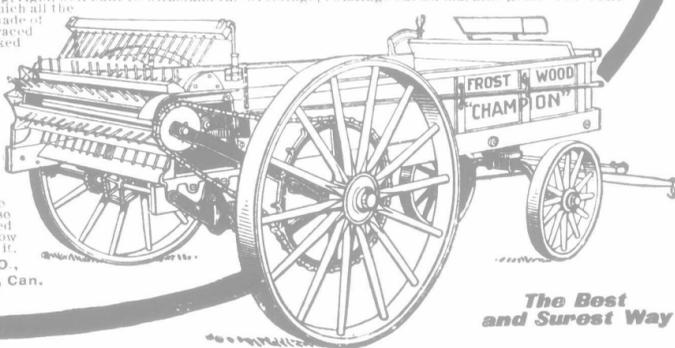
power is derived is 2 1/2 inches in diameter, made of cold-rolled steel. The frame is heavily braced and sills continuous. The apron can be locked in any position and will not move any faster than you wish, whether going uphill or down. The feed from apron to beater through pulverizing rake is even and uniform—no ground is skipped and left bare. Harpoon teeth on beater prevent clog. Direct chain-drive from big sprocket wheel gives certain and uniform spreading, makes light draft, and prevents breakage. But we can't tell all the good news about the "Champion" here. Why the "Champion" is convenient, strong, durable, rigid and practical; why it can be successfully handled by your 12-year-old son; why it's just the machine for your work and your demands—all these and a score more "whys" fully answered in our Catalog F 54 and Booklet "How to Feed Your Crops." Send for it.

The FROST & WOOD CO., Ltd., Smith's Falls, Can.

INCREASE THE MARKET VALUE OF YOUR LAND

Spreading manure by hand is certainly the slowest, most wasteful method of enriching land. You get only a third or a half of its value after all your hard, back-twisting, arm-straining work. A load of manure distributed by a "CHAMPION" is worth twice or thrice that "thrown about" by hand and doubles the energy of the soil, because the particles are so fine that they sink quickly into it. It takes two of you an hour to distribute properly a load of manure by hand, while a "Champion" will put it on, thick or thin—in four minutes—and do it three times as well. No standing in the repulsive stuff all day when you use a

Champion Manure Spreader



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HOMESEEKERS' EXCURSIONS

TO WESTERN CANADA

Through the metropolises of Chicago, thence via Duluth and Fort Frances or through Chicago and the twin cities of Minneapolis and St. Paul.

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Winnipeg and return - \$32 00
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Tickets good for 60 days.

Proportionate rates to principal points in Manitoba, Saskatchewan and Alberta, including certain points on Grand Trunk Pacific Railway.

Low Colonist Rates to Pacific Coast Daily Until April 15th

Secure tickets and full information from any Grand Trunk Agent.



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Stand supreme as a Blood and Nerve Tonic.

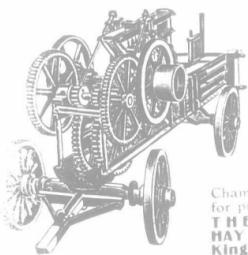
They are unequalled for Biliousness, Sick Headache, Constipation, Heart Palpitation, Indigestion and Anemia. Those who are in a position to know what is best use "ELECTRIC BEANS."

Write for Free Sample

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RAILED 68 TONS IN 10 HOURS.



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Don't take our word for it. Ask us to prove to you that the **SELKIRK STIFF-STAY FENCE** is Heavier, Stiffer, Stronger, More Secure and Serviceable than any fence you have ever seen. It is the Best and Most Economical Fence to Buy, and consequently to Sell.

FILL OUT THIS BLANK AND SEND IT TO US, SELKIRK FENCE CO., HAMILTON, CAN.

Gentlemen,—I want to examine for myself the merits of S. S. S. Fencing and Gates. Send me a free sample piece of the fence with descriptive matter and agent's terms.

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3 1/2 %

You might better place your savings here where they will earn 3 1/2 % instead of 3 %. Security, \$2,000,000 assets.

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You can operate the Aspinwall No. 3 Potato Planter without the assistance of another man. The Aspinwall No. 3 not only saves you the extra man's pay, but also plants one-third faster than machines requiring two men. The hand that handles the seed on the Aspinwall No. 3 is the iron hand. Unlike the human hand, it never gets tired. It drops 99 per cent. good. You can use different sizes of seed and vary the distance of planting without requiring change of pickers. No other planter can compare with it in accuracy or handle as large a range of seed.

Send for our catalog #1. We are largest manufacturers of potato machinery in the world, and we can give you valuable facts on profitable potato culture.

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Write for more information to Merchants "The Farmer's Advocate" When Writing

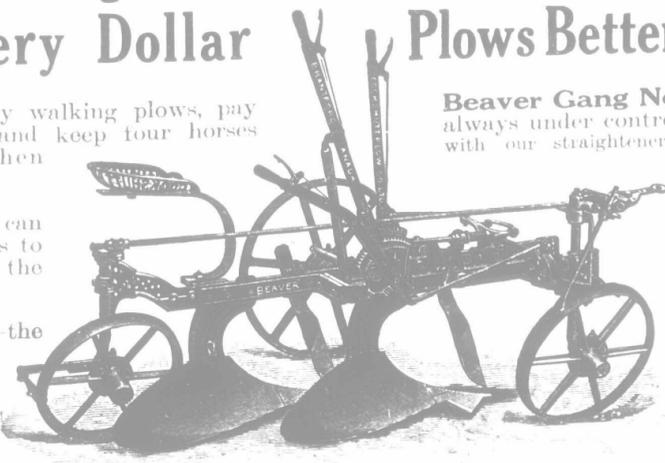
This Beaver Gang will Reduce Your Plowing Expenses 40c. on Every Dollar Plows Better-Quicker-Easier

WHY use two ordinary walking plows, pay two skilled men and keep four horses working hard, when there's a better way?

Simply hire any lad who can drive, hitch up three horses to this Beaver Gang and tell the boy to go ahead.

He needn't be an expert—the plow is so simple and easy to operate.

And this Gang plow will make better furrows, plow quicker and save you nearly half your plowing expenses, than if you used two ordinary walking plows. Read



Beaver Gang.

Beaver Gang No. 1—Wheels of this Gang are always under control of driver, and this, combined with our straightener device, enables the operator to keep an absolutely straight furrow.

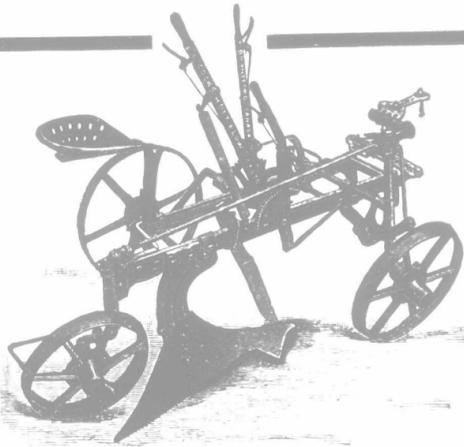
The cushion spring on land wheel axle arm, takes the strain off the wheel when striking obstructions in rough work. The high beam ensures good clearance. This plow is also built with adjustable beams, which can be set for wide or narrow work.

Our new lifting spring for furrow wheel makes it possible to raise the plows without effort. The land wheel is extra large, making the plow run steady and easy. Can be supplied with wide or narrow bottoms, knife colters, shares, tripletrees and wrench. We cannot recommend this plow too strongly to farmers who want

good work done quickly and cheaply—the great demand we have for this Beaver Gang is sufficient proof of its efficiency.

This Plow Draws as Light as an Ordinary Walking Plow

This Beaver Sulky has all the features of the Beaver Gang. The beam for carrying the plow is made of extra heavy high carbon steel, making it a perfect plow for hard work. The wheels are absolutely dust proof, are always under the control of the driver, and are so arranged that the plow will automatically adjust itself to the



Beaver Sulky.

Does Better Work — Ensures Rest for Driver

unevenness of the ground. The land wheel is extra large—a great advantage in operating the plow. The plow can be easily raised by means of our new lever and spring lift and bottoms can be supplied to suit any soil. This is without question the lightest draft sulky plow made and we know it will give full satisfaction under all conditions.

Great Plant where above Plows are made.



Our Agent will gladly show you these Plows.

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A CATALOGUE of Cockshutt implements will show you at a glance, the best and latest there is in farming tools. It will show you how to farm right—farm profitably—how to get the most out of your land at the least cost—how to get it better and easier.

From plowing time to harvest there is a Cockshutt implement for your every need. And when you buy an implement bearing the "Cockshutt" name you can depend upon it that the materials are the best, the workmanship perfect and the price reasonable.

We make plows, harrows, drills, cultivators, etc., etc., suitable for all conditions, and we give every farmer—from the man who has only a few acres to the one who can count his acres by the thousand—the right implement to write for our Catalogue today, for we will gladly send you the most complete and up-to-date catalogue of implements that is being turned out at our great plant at Brantford. A perfect catalogue of our Catalogue to you by return mail.

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