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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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Vol. LII.

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LONDON, ONTARIO, APRIL 19, 1917.

No. 1282

There is a difference in Telephones

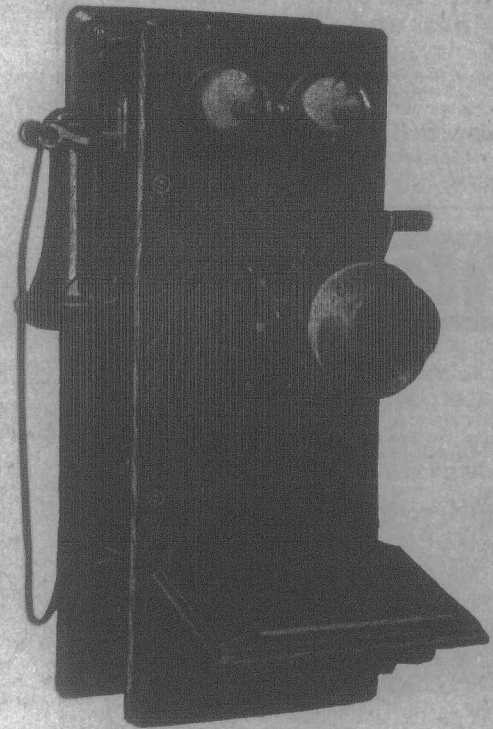
Different makes of telephones may look very much alike to the average individual, but there is a great difference in their power of transmitting and receiving the voice, and in their cost of maintenance.

Canadian Independent Telephones

of the style illustrated are designed especially for rural party-line service in Canada. They have exceedingly strong transmitting power, and send the voice with perfect clearness and naturalness; and receive it so that you can hear it without straining to do so.

Canadian Independent Telephones are of the very highest quality. The materials used are A1 in every respect. The workmanship is of the highest order. Their durability and soundness of construction assure the minimum of maintenance cost.

The construction materials we supply for building a complete rural telephone system are guaranteed first quality. We carry a complete stock, and can ship promptly.



Let us send you an estimate on telephones for a complete new system or an extension of an old one.

Free Bulletin

Write for a copy of our No. 6 Bulletin. It tells all about our Canadian-made telephones for rural party-line service.

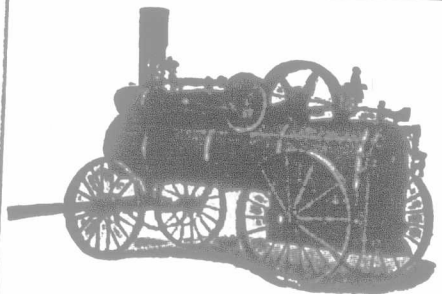
Canadian Independent Telephone Co., Limited

261 Adelaide Street West, Toronto



THRESHERMEN, READ THIS!

The Improved Veteran Endless Canvas Drive Belts will give you better service than any other. You want the best. Order now. Sold only by
WINDSOR SUPPLY CO.
 57 Sandwiche Street West, Windsor, Ont.
 Headquarters for Suction Hose and all other Thresher Supplies. Write for catalogue, "Engineers' Bargains."



Rebuilt, Portable Traction Engines and Threshers
 A number of good, rebuilt, portable and traction engines, suitable for silo filling and threshing; also a few good separators for sale cheap.
The Robt. Bell Engine & Thresher Company, Limited
 SEAFORTH, ONTARIO

HYLO SILO

Sweet Fresh Ensilage down to the last forkful

THE HYLO SILO is perfectly air-tight. No frozen or spoiled ensilage around the walls. Convenient and perfect fitting doors, adjustable without hammer or wrench. Made of Guaranteed Long Leaf Yellow Pine. Built to last a life-time. Stands rigid when empty.

Write for prices and catalogue. AGENTS WANTED.
Gilson Mfg. Co. Ltd. 49 York St. Guelph (4)

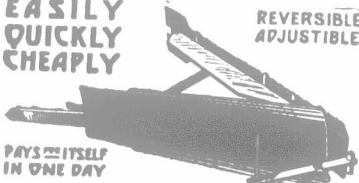


Nursery Stock AT WHOLESALE PRICES

Guaranteed first grade and true to name.
 No Agents. Send for Catalogue.

IMPERIAL NURSERIES RIDGEVILLE : : ONTARIO

THE MARTIN **DITCHER AND GRADER**
 DIGS YOUR DITCHES GRADES YOUR ROADS
 EASILY QUICKLY CHEAPLY
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PAYS ITSELF IN ONE DAY
 DOES THE WORK OF 50 MEN
 SEND FOR FREE BOOKLET
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TRAPPERS!

Trappers wanted. Write and get my flat...
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MORE TIME FOR

reading, fancy work and the children if you have a McClary's Florence. This is a time-giving stove, because it needs no watching. Height of flame never varies of itself. Properly adjusted, with plentiful oil supply, it will do its work untended for an hour or two if desired.



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FLORENCE

OIL COOK STOVES Wickless, Valveless, Blue Flame, Automatic
 LONDON, TORONTO, MONTREAL, WINNIPEG, VANCOUVER, ST. JOHN, N.B., HAMILTON, CALGARY, SASKATOON, EDMONTON



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Crocheting



Children



This Engine Will Cost You Nothing

You need an engine—get a Gilson on our new easy payment plan, and it will pay for itself. You have the work for it to do this fall and winter, help is scarce and high-priced—save yourself a lot of worry, and enjoy that "Feeling

of Security" which is such a definite part of the staunch, reliable Gilson Engine. Gilson Engines have long enjoyed an indisputable reputation for dependability, power, simplicity and economy. This year finds us with an even more attractive proposition for the discriminating buyer. Prices of everything you have been buying have been soaring, but by careful management we are able to furnish Gilson Engines at remarkably low prices. Write to-day for catalogue, price and easy-payment plan, stating what size you are interested in.

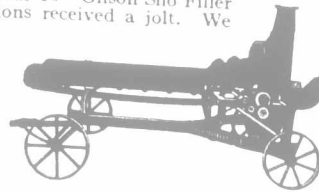
Gilson Mfg. Co., Ltd., 259 York St., Guelph, Ont.

Fill your Silo with your own Engine

A 4 or 6 H.-P. will operate the small size. Darby Bros., of Rockwood write: "When we filled our 11x30 silo in seven hours with our 10" Gilson Silo Filler and 6 H.-P. Gilson Engine the neighborhood traditions received a jolt. We have had the outfit now for three years and both machines are running as smoothly as new."

The Gilson Silo Filler

is truly called "The King of Corn Cutters". Why take chances with your corn crop? Play safe—don't worry whether you can get the cutter gang when you need it. This is the machine you want. Order NOW before the season's supply is exhausted.



GILSON MFG CO., LIMITED, 199 YORK ST., GUELPH, ONT.

FREE LAND FOR THE SETTLER IN Northern Ontario

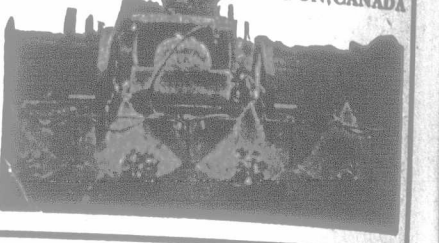
Millions of acres of virgin soil, obtainable free, at a nominal cost, are calling for cultivation. Thousands of farmers have responded to the call of this fertile country and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you. For full information as to terms, regulations and settlers' rates, write to
H. A. MACDONELL, Director of Colonization, HON. G. HOWARD FERGUSON, Parliament Buildings, TORONTO, ONT. Minister of Lands, Forests and Mines.

When writing advertisements will you please mention The Farmer's Advocate.

FREE Write us, giving some idea of your spraying needs and we will forward absolutely free a copy of our valuable illustrated work on **Crop Diseases**, also full particulars of a **SPRAMOTOR**

best suited to your requirements. We make SPRAMOTORS from \$6 up. Write us to-day.

Made in Canada No duty to pay
B.H. Heard Spramotor
 3043 King St., LONDON, CANADA



THE PLOW BOY TRACTOR



—is a business machine designed along sound mechanical lines, of proven worth, with no freak features.
 Made in two sizes: 10-20 HP and 18-30 HP.
 Prices \$1250 and \$1375, f.o.b. Guelph.

Write for Catalogue
GILSON MFG. CO. - Guelph, Can.

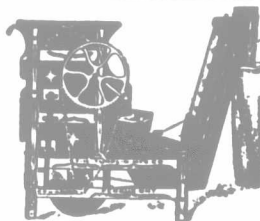
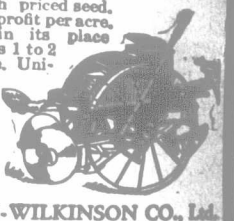
IRON AGE

Farm, Garden and Orchard Tools
 Answer the farmers' big questions. How can I grow crops with less expense? How can I save in planting potatoes? How make high priced seed go farthest? The

IRON AGE Potato Planter solves the labor problem and makes the best use of high priced seed. Means \$6 to \$50 extra profit per acre. Every seed piece in its place and only one. Saves 1 to 2 bushels seed per acre. Uniform depth; even spacing. We make a full line of potato machinery. Send for booklet today.

No Misses No Doubles

THE BATEMAN-WILKINSON CO., Ltd.
 41 Symington Avenue, Toronto, Canada.



PERFECTION Seed & Grain Separator

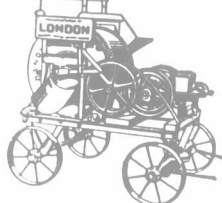
(Patented 1901)
 The best and latest mill for cleaning and grading all kinds of Seed and Grain.

See nearest Agent or write for Catalogue to
THE TEMPLIN MFG. CO., FERGUS, ONTARIO

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GUNS, TRAPS, SPORTING GOODS
JOHN HALLAM, Limited
 425 HALLAM BUILDING - TORONTO

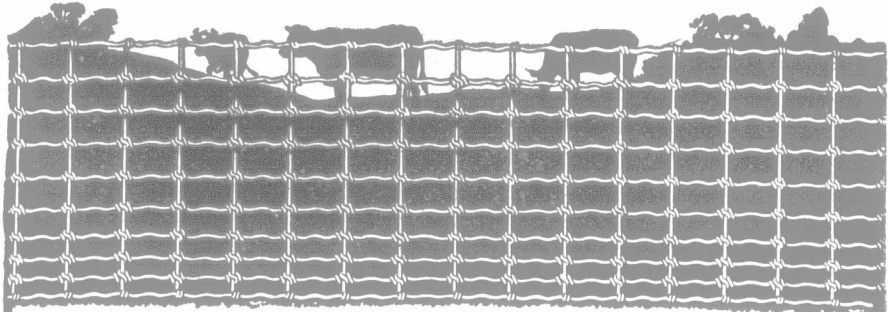


"HANDY" LONDON CONCRETE MIXER

Capacity, 40 cu. yards per day. Price complete with gasoline engine, \$225. Pays for itself in fifteen days' use. Built to last a lifetime. Send for catalogue No. 1 K.

LONDON CONCRETE MACHINERY CO., Dept. B, London, Ontario
 World's Largest Mfrs. of Concrete Machinery

The most economical system of life insurance is the **MUTUAL**.



It's service, not surface, that counts in Wire Fencing

Fences made of soft wire may look all right, but they are liable to act all wrong when it comes to keeping strong, healthy, active live stock within bounds.

THERE is, however, one fence that you can count on for satisfactory service year in and year out, and that is "Ideal." Made of large gauge No. 9 hard steel wire, heavily galvanized, with the verticals and horizontals clamped together with a patent lock that cannot slip, "Ideal" fence is bull-strong, hog-tight, horse-high—a real fence, every foot of it.

Ideal Fence

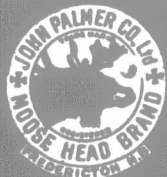
The quality of the wire from top to bottom in "Ideal" Fence is all the same gauge, hard drawn steel wire, tough, live, springy, heavy wire that will be standing up doing splendid service years from now. This is a point you have to watch mighty carefully. Some fences have 9-gauge horizontals, but softer, weaker wire for the stays and locks. Naturally this takes something off the price, and it takes something off the strength and durability too, far more than the difference in price. You are going to fence for a lifetime, then fence with "Ideal" and get a lifetime's service.

We make a fence for every purpose. Write for a copy of our catalogue which describes them all.

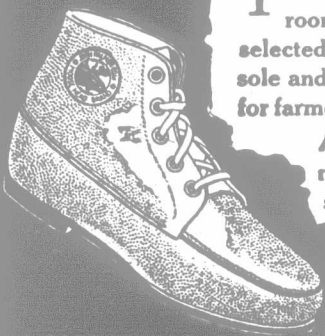
The McGregor-Banwell Fence Co., Limited, Walkerville, Ontario.

23

Palmer's Summer Packs



THE shoes for aching feet—light in weight, durable, roomy, comfortable and waterproof. Made from selected Skowhegan leather with water-proofed leather sole and heel and solid leather insoles. The ideal shoe for farmers or others working on the land.



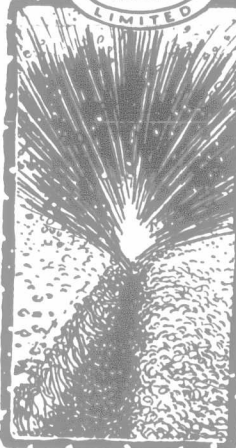
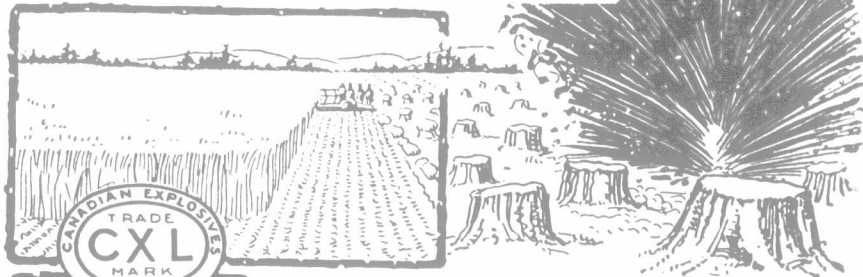
Also specially suitable for woodsmen, trackmen, millmen, sportsmen, laborers—all who require strong, easy fitting footwear.

Get a pair of Palmer's "Moose Head Brand" footwear from your dealer. They will give you foot comfort and great wear.

JOHN PALMER CO., Limited
Fredericton, N. B., Canada

31

Develop your Farm with C. X. L. Stumping



Make your waste lands profitable—get the full value of the rich soil in the stump lot. C. X. L. Stumping Powder is **The Economical Way**

to blow out the stumps, blast the boulders, dig ditches and tree holes and break up hardpan. It does these things easier, quicker and cheaper than is otherwise possible. Safe as gun powder.

There is money in agricultural blasting. Ask us for our proposition. Send for free booklet "Farming with Dynamite."

Canadian Explosives, Limited,
806 Transportation Bldg., Montreal.
Western Office, Victoria, B. C. 2

Six-year-old apple trees

Spade planted



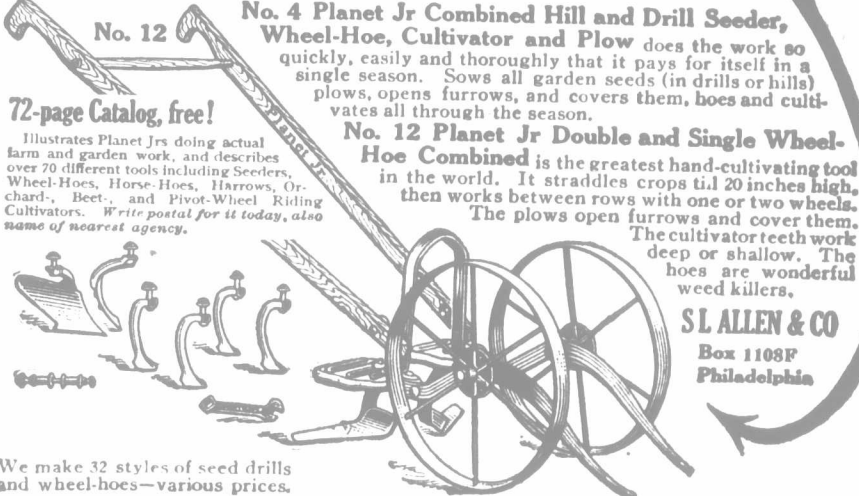
Soil-bound roots



Planted with C.X.L.

These tools enable you to cultivate triple the acreage

They are so scientifically constructed that they do 3 to 6 times the work of old-fashioned tools in the same time; or they do the same work with one-third the labor, and they get bigger better crops because they cultivate more thoroughly. 45 years of practical farming and manufacturing experience is back of every Planet Jr. Fully guaranteed.



No. 4 Planet Jr Combined Hill and Drill Seeder, Wheel-Hoe, Cultivator and Plow does the work so quickly, easily and thoroughly that it pays for itself in a single season. Sows all garden seeds (in drills or hills) plows, opens furrows, and covers them, hoes and cultivates all through the season.

72-page Catalog, free!

Illustrates Planet Jr's doing actual farm and garden work, and describes over 70 different tools including Seeders, Wheel-Hoes, Horse-Hoes, Harrows, Orchard, Beet, and Pivot Wheel Killing Cultivators. Write postal for it today, also name of nearest agency.

No. 12 Planet Jr Double and Single Wheel-Hoe Combined is the greatest hand-cultivating tool in the world. It straddles crops 14 to 20 inches high, then works between rows with one or two wheels. The plows open furrows and cover them. The cultivator teeth work deep or shallow. The hoes are wonderful weed killers.

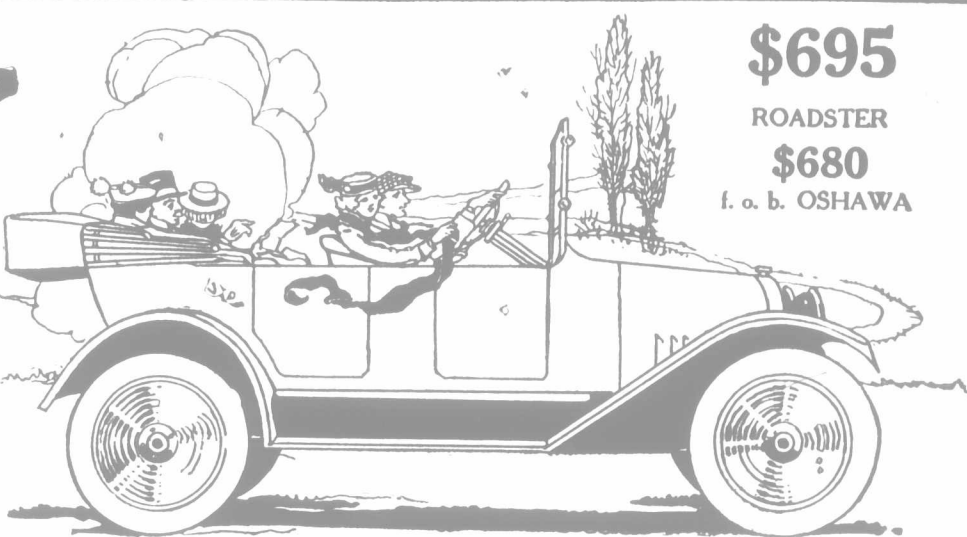
S. L. ALLEN & CO
Box 1108F
Philadelphia

We make 32 styles of seed drills and wheel-hoes—various prices.

The New Series CHEVROLET

The Chevrolet has the famous valve-in-head motor which means fuel economy and power.

This alone would justify your choosing the Chevrolet in preference to any car selling for less than \$1000, yet there are many other exclusive features to augment your decision. See the Chevrolet before you buy your car.



\$695

ROADSTER

\$680

f. o. b. OSHAWA

CHEVROLET MOTOR COMPANY
OF CANADA, LIMITED
OSHAWA, CANADA

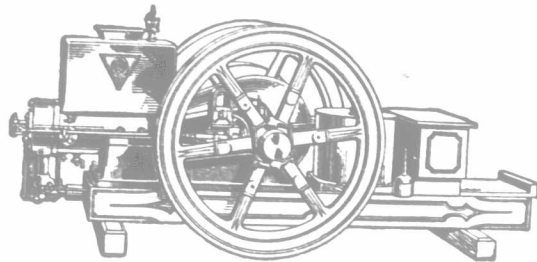
WESTERN SERVICE AND DISTRIBUTING BRANCH:
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Send for Descriptive Literature.

"The greatest convenience on the farm"—

that's what farmers who own them say about



Alpha Gas Engines

AND that is what you, too, will say after you have used one and seen how much time and work it saves.

If you want to cut or grind feed, fill a silo, saw wood, or pump water, or if the women folks want to run the cream separator, the churn or a washing machine, the ALPHA is right on hand ready to do the work—and do it more quickly and more cheaply than you can get it done in any other way.

The ALPHA is a powerful, smooth-running engine which will develop its full rated horsepower on a minimum amount of either gasoline or kerosene. The sensitive governor prevents any waste of fuel from changes in load.

The ALPHA has no trouble-making batteries, but starts and runs on a reliable low-speed magneto. It is so simple that a boy or a woman can start and operate it, and this simplicity means low upkeep cost and exceptional freedom from repairs.

You need a good gas engine on your farm. Send for our illustrated engine catalogue, which describes the ALPHA in detail and tells why farmers who use it get the most for their money.

Alpha Gas Engines are made in eleven sizes, 2 to 28 H. P., and each size is furnished in stationary, semi-portable, or portable style, with hopper or tank-cooled cylinder.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos, Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Make Ditching Your Business!

Right now, while you're thinking how to establish an independent profitable business, the finest chance in the world lies right before you. Everywhere there is wet land that needs underdrainage.

You can do this work with a Buckeye Traction Ditcher; operate 8 or 9 months in the year and clean up more good money than on a 75 acre farm. Conditions of course vary, but a

"A Perfect Trench at One Cut" BUCKEYE Traction Ditcher

ordinarily clears a daily net profit of \$15 to \$20. Quite frequently operators do better, but you will admit this is good.

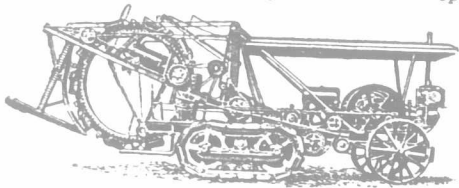
The Buckeye Traction Ditcher cuts a smooth, true trench ready to receive the tile immediately and from 4½ to 12 feet deep, depending on the size of machine. Cuts through frost and hardpan. Apron wheels affording wide bearing area, enable these Ditchers to travel over and operate successfully in swampy lands.

Here is what two Buckeye Operators say their machines accomplished:

"Have been greatly pleased with my Buckeye. Last season I excavated 6673 rods of ditch, averaging 21½¢ per rod. After expenses paid had \$1435.77 net profit for my labor. I can fully recommend the Buckeye Machine to any possible purchaser."
CARL J. WILLIS,
Bannister, Mich.

"I bought the ditcher three years ago and have not paid out ten dollars for breakage. Have tiled my farm and have done enough outside work to more than pay back the price of the machine and all expenses, so my tiling cost me nothing."
L. R. WILES,
Plymouth, Mich.

Now then, don't delay. Write us at once for a "Book of Facts," telling what the "Buckeye" has done. Tell us what your soil is and the size of ditches you wish to cut—we'll designate the proper machine for you. Our service Department will point the way and show you how to establish yourself firmly in the independent, and highly profitable business of contract tile ditching and be successful from the beginning.



THE BUCKEYE TRACTION DITCHER CO.
2016 Crystal Ave. Findlay, O.

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Look for the Roll with the Paroid Label

NEPONSET Paroid Roofing has achieved a reputation during the last 19 years that is the admiration of all competitors, and this warning is for your own protection.

Paroid makes the one roof which cannot crack, rot, rust, or dry out, and is endorsed by the National Board of Fire Underwriters for its fire protection qualities.

Your guarantee of satisfaction lies in the Paroid roofs that have stood the severest weather during the last 19 years, and are still in fine condition.

NEPONSET Paroid ROOFING



19 years of Service

Neponset Paroid is made with permanent Grey, Red, and Green Surface. Every roll contains complete kit, and our unconditional guarantee.

For your home, Neponset Twin Shingles are recommended, having the same good qualities as Paroid, and with crushed slate surface of Red or Green.

Hardware and lumber dealers sell Neponset products.

Go to the Neponset dealer and get real satisfaction.

BIRD & SON, Dept. B HAMILTON, Ont.

The largest manufacturers of Roofing, Wall Board and Roofing Felt in Canada. Warehouses in Winnipeg, Calgary, Edmonton, Vancouver, Montreal, St. John. Also Manufacturers of Neponset Wall Board.

118



BUILD A STURDY STAVE SILO

10% Cheaper and 100% More Durable

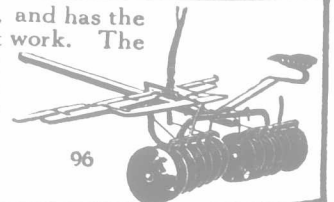
Our Preservative Process is an Exclusive Feature.

A 50-page Fully Illustrated Descriptive Catalogue free on request.

Territory still open to live Agents.

THE ADIRONDACK SILO CO. OF CANADA, LIMITED
425 Atwater Avenue Montreal, P.Q.

The Bissell Disk takes hold of any soil, and has the "knack" of doing great work. The Disk Plates are of special design—they cut and turn the soil over. The draught is lighter, too, than any other Disk. In fact, you won't find another Harrow that can begin to compare with the record of the Bissell. Write Dept. for free catalogue.



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

96

How they made this road durable—

THIS is Kingston Road, an important highway in Scarborough Township, the main road leading east from Toronto, carrying heavy traffic the whole year round.

Originally it was built of plain macadam, but this was expensive to maintain, because the automobiles wore it out almost as fast as it could be rebuilt. That made it expensive and the money which the authorities wanted to expend on new roads had to be expended in keeping the old ones going.

In 1915 this road was given a treatment with "Tarvia-B," a coal-tar preparation of great penetrating power. It is applied from a motor tank-truck or a modified sprinkling-cart at very low expense. It percolates into the macadam and hardens by evaporation, making a tough, plastic carpet coat of Tarvia concrete.

As soon as the Tarvia was applied

THE PATERSON MANUFACTURING COMPANY, LIMITED
MONTREAL TORONTO WINNIPEG VANCOUVER

THE CARRITTE-PATERSON MANUFACTURING CO., LIMITED
ST. JOHN, N.B. HALIFAX, N.S. SYDNEY, N.S.



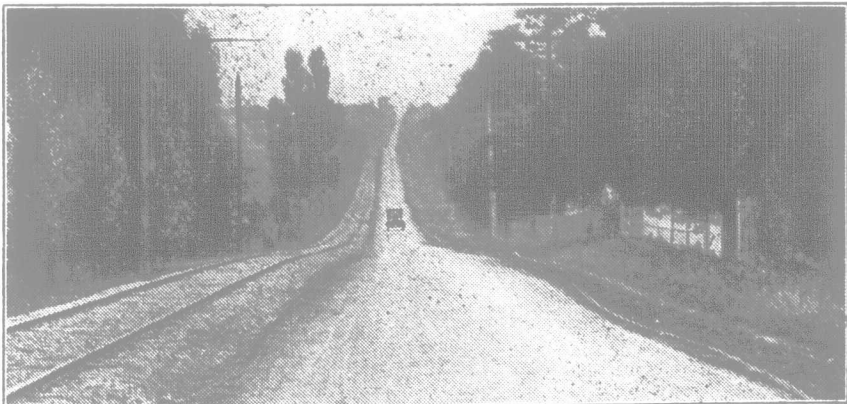
the automobiles ceased to do any serious damage to the roadway. The tough tarviated surface sustained little or no damage from the wheels. It shed water promptly and quickly and excluded frost.

In 1916 the road was given another coat of "Tarvia-B," reinforcing the first, at a diminished expense.

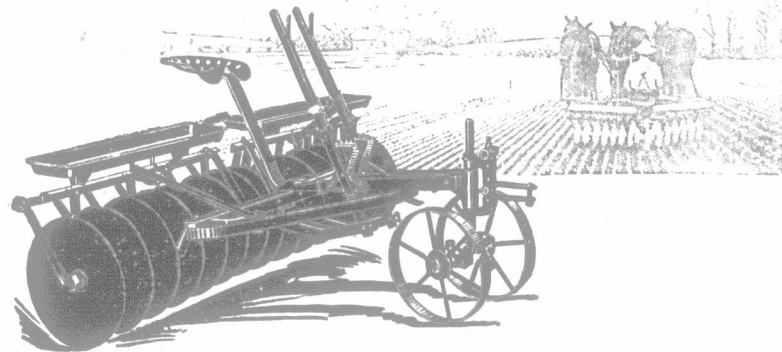
In 1917 it will need a little "Tarvia-B" again, and a little touching up.

As time goes on the intervals between treatments become longer and the annual expense gets lower and lower. Re-surfacing will be required only one-third or one-quarter as often. The Tarvia way is the cheapest way to maintain macadam. Many towns and counties have adopted it for that reason alone.

We have illustrated Tarvia booklets which we are glad to send to any ratepayers. They show many frost-proof, automobile-proof, economical roads all over the Dominion.



Kingston Road, Scarborough Township, York County Highway Board, Ontario. Treated with "Tarvia-B" in 1915 and 1916.



One Disking Does the Work

CAN you go over a field once with your disk harrow, cutting the full width of the harrow each time, and do a satisfactory job? Is your disked land level, and free from ridges?

It is if you are using a McCormick disk harrow, and that's one of the principal reasons for buying a high-grade, well-designed disk, with bowed set-lever bars, easily adjustable snubbing blocks, and a frame strong enough to hold the gangs' level in all kinds of soil. Once over with a McCormick disk, lapping six or eight inches, generally does a first-class job. If your conditions are such that you must double disk, use a McCormick in-throw tandem attachment and do the whole job at once. The time you save in one season is worth enough to pay for the attachment.

The same high-grade quality and design runs through the whole McCormick line of tillage tools—the peg and spring-tooth harrows, drills and cultivators. Properly used, they give you a much better chance of harvesting a bumper crop.

Buy your tillage tools this spring from the McCormick local agent, who will show you how to take full advantage of all their good features. Write the nearest branch house.

International Harvester Company of Canada, Limited

BRANCH HOUSES

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.
EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

TORONTO WINDMILLS WORK WITH THE ZEPHYRS STAND UP TO THE GALES

For over thirty years Toronto Windmills have been proving their ability to get maximum power out of every wind that blows. The curvature, size and spacing of the blades has been worked out to a nicety, and lightness and strength are so perfectly balanced that Toronto Windmills run when others stand still, yet resist the storms when others fail. These features are fully illustrated and explained in our Windmill Booklet. Few farmers realize the labor-saving convenience of a

TORONTO WINDMILL

With practically no expense or attention it will pump water for the stock, for a supply throughout the house, for irrigation, drainage or fire protection.

The Toronto Windmill has self-regulating equipment that prevents racing in high winds, shuts off the mill when the water tank is full, and automatically starts it again when water is used. Oiling once a month is all the attention needed.

Bearings, gears and all moving parts are practical in design, and have proven their ability to give long, satisfactory service with the least possible trouble and expense for repair. The galvanizing is of the very best, lengthening the life of the mill and guarding against costly failures of parts.

If you are interested in the cheapest efficient farm help on record, write for our illustrated booklet on the Toronto Windmills.

We also manufacture Engines, Pumps, Silos, Stable Equipment, Etc.



Ontario Wind Engine and Pump Co. Limited
Dept. "F"
TORONTO and MONTREAL.

When writing please mention Advocate

PEERLESS ORNAMENTAL FENCE

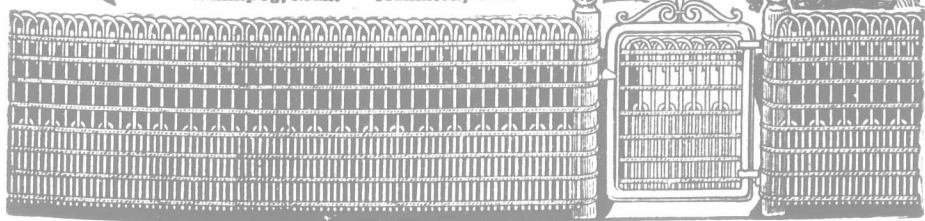
THE SENTINEL OF THE HOME

Always on guard to protect the children, the lawn and flower beds from stray dogs and other intruders. A Peerless Ornamental Fence with its sturdy gate is a work of art and with an occasional coat of paint will last a lifetime.

It is built of open hearth steel wire galvanized and when not otherwise ordered we paint all fencing with a coat of high grade paint. It looks well and lasts long.

Send for Catalog of many designs, also Farm and Poultry Fencing. Dealers Everywhere.

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Man. Hamilton, Ont.



Try before you Buy

ASK any one of our dealers to let you have a Viking on 30 days' free trial, and he will be glad to do so.

If you are not entirely satisfied with it at the end of that time, if you don't find the Viking a better separator for less money, he will take it back and refund your money immediately. We consider the Viking sold for keeps only when you are pleased with it.

Descriptive booklet free. Dept. 4

SWEDISH SEPARATOR CO., 515 South Fifth Ave., Chicago, Ill.



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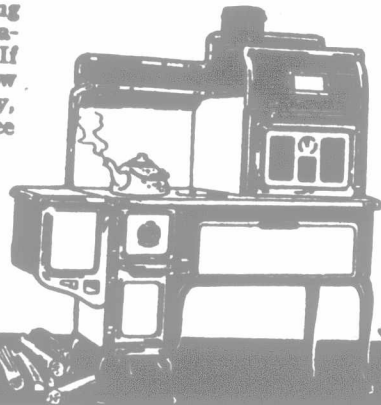
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The Farmer's Advocate and Home Magazine

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LONDON, ONTARIO, APRIL 19, 1917.

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EDITORIAL.

Work more horses in the team.

There are few "diplomatic relations" left to break.

Good morning! Have you hired that man you need yet?

The Kaiser is finding the world a rather large pill to swallow.

The Ontario Legislature wisely decided to defer an election until after at least one more session, or until the war is over.

Put seats on all the implements and use a cart behind the harrows. The chores will give your legs plenty of exercise.

Backyard, poultry, and farm work for the summer may give some people a little food for thought on the problems of the farmer.

The man who advises plowing up all the old pastures should receive a formal introduction to Mr. Wire Worm and Mr. White Grub.

Producers who are content to leave the marketing of their products in the hands of city men are satisfied with the small end of the horn.

March didn't end Jack Frost for the season, but his belated attacks in early April were not sufficient to rout out the clover and wheat.

The automobile speed limit law remains the same in Ontario, but the only limit some drivers observe is the limit of power and speed of their car.

Accustomed to sleeping late, the cities did not wake up to the fact that a food shortage was imminent for months after the campaign to get men to the farms should have been under way.

If you have a friend or relative in town or city who can come and help with the farm work this summer, make arrangements now. Better satisfaction will result where the farmer and the man know one another.

If Ontario is to have a Provincial Highway over roads already established, then it must be for the use of all the people and the cost must not be levied unjustly on the municipalities through which it passes.

We have confidence in the Canadian farmer. It is safe to say he will produce all he can in 1917. It is also safe guessing that he knows a little better how to run his own business than does anyone engaged in other work.

Times change; so do opinions. Some of those who a year or two ago did not think it of any importance that food should be produced in this country are now very anxious to help increase production. The farmer is glad they got their eyes opened and he may be able to use some of the help offered.

There are those who would do well to remember that it requires more than talk and a few five-cent packages of garden seeds to make a profitable backyard garden; it requires more than seed and good intentions to grow potatoes; it requires more than chickens to produce eggs, for the birds will eat; it requires common sense, knowledge and industry to make all these things count.

Food, Famine, or Farm.

Early in the war, "The Farmer's Advocate" drew attention to the fact that before the conflict was terminated food would be one of the biggest factors on the side of the winning forces. It was important at the very outbreak that attention, organized effort if you will, be given to the problem of maintaining and increasing production while the men were away fighting the battles. Through the months of strife which have passed we have time and again emphasized the importance of food production in Canada, nor would we relent now, for food is of increasing importance daily. Up to a few weeks ago city men (not all, but many) seemed to think that our farms could be abandoned while the farmers went overseas to fight. The people at home could live on hot air, dried apples and pure drinking water, while the boys at the front would be fed by the Government, and we needn't worry about men for the farms. Some recruiting speeches were far from complimentary to the patriotic spirit and courage of our noble boys of the farm. Some of those who are so anxious in April 1917 to produce, called farmers and their sons cowards and yellow less than one year ago, because some of these same farmers and farmers' sons, realizing that the greatest sacrifice was made by the men who enlisted for the trenches, also understood that food was necessary and they believed that they could, in many cases, best do their part by bending all efforts to produce more food for the fighters and the people who were then carrying on "business as usual" at home. These patriotic farmers, for they were and are patriotic, have done their best. They have been slurred and sneered at, their hired men who did not enlist have been hired away from them by munitions and other factories that could pay far higher wages. Thousands have enlisted and gone overseas and now in 1917, with the world at war and facing a shortage of food, our city men awaken with a start and see in the hazy light the terrible apparition of approaching famine. The wonder is that they had not realized this danger before. Being practical men one is astonished that they did not know the importance of keeping enough men who knew how to do farm work and how to manage production on the farms.

But at last, and very much late, they are earnestly trying to overcome the mistakes of the past, mistakes which would never have been had the farmer got the consideration he should have from legislators in years gone by, and had the country's resources been organized at the beginning of the war. Men left the farms before the war because prospects looked better in the cities. The war made things worse, until now the average of farm male population of the age of hard days' work is about one to one hundred acres in Old Ontario. In the West the shortage of men is also acute. City Boards of Trade, Clubs, etc. are now, well on in April, head over heels in their efforts to send men to the farms. They are promising all kinds of men from school-boys to the best of experienced men. If their goods are as good as advertised, farmers should take advantage of this proffered help. In fact any help should be welcome, provided it is not of the summer-boarder kind.

It is amusing to read some of the arguments of the enthusiasts. They seem to think that it requires no brains or ability to do farm work. All that is necessary in their minds is inclination. Willingness is half the battle, but knowledge, ability and stamina are the foundation half. The farm is no place for worn-out, old toddlers, and farm labor is no kindergarten for school-boys to get hardened up for the football season next fall, neither is it work at which the inexperienced and physically unfit man behind the counter is likely to be of much use, especially at first.

Experience proves that farmers in the rush of work are not likely to waste time breaking in green men.

In the rush and worry they have little time to educate strangers. Therefore, we think that the suggestion made by "The Farmer's Advocate" last year should be followed wherever practicable. Let every city man who can do so go out to the farm of a relative or friend for the summer, or for whatever part of it he can spare. Boards of Trade might encourage this. These men will get along much better than if among strangers. If they have the pluck and are willing they can make good. There will be more consideration shown than where farmer and hired man are strangers, and this applies to both.

Let us not get worked up into a frenzy over the situation. Men are needed. There is a world food shortage. The International Institute of Agriculture reports a world deficit in the supply of corn, wheat, rye, barley and oats of 130,000,000 bushels less than normal requirements up to August of this year when the new crop begins to come in. This is not irreparable. There is considerable land near large cities that could be rented. Why not let some City Fathers and businessmen lease this and put their men on it to produce? If the men would be profitable to other farmers surely they would do good work for their present employers if they became farmers.

Let all hands sanely go about it to make up what we can of the shortage. Let us show city dwellers that they haven't got a corner on patriotism—that a little of it exists on the concessions, side lines, front hundreds and back fifties of this fair Old Province of ours, and has existed there since our forefathers put the first axe blade in the virgin forest on their lots. Patriotically the cities are offering to send men to the farms. Patriotically let them be received. Let every farmer who needs a man apply. If the city man falls down, the blame will be on him, but give him a fair chance. Let the city enthusiast remember again that farming is not a pleasant little picnic. In the words of our own Canadian poet the farms are calling to the city Boards of Trade: "Send not your foolish and feeble; send me your strong and your sane."

Will De-Centralization Come?

During the past few decades centralization has gone on apace. The village or town mill, shop and small factory have been closed. The small store has hung up its shutters and the people have gone. The country itself has been drained. What has been the cause? Where have the people gone? Centralization is the answer. The big and rapidly growing cities with the mammoth mills, the several storey shops, the far-reaching factories have taken them all. Has it been a good thing? It is difficult to say either yes or no. There are those, however, who believe that it has not worked for the good of the country as a whole. Busy villages and thriving towns are a great help to a rural community, and a contented, satisfied, successful, rural population is essential to permanent national prosperity. Urban centers cannot exist without the vast expanses of farming land well tilled. The Branch Bank System has been blamed for centralizing capital. Protected and bonused manufacturers have centralized labor, which is the people. It has been possible to make bigger wages in the large city than the farmer could afford to pay, so the people have gone to the cities to work in the big stores, the big shops, and big manufacturing plants. And what follows? Centralization gave birth to a lusty but howling offspring called High Cost of Living, and it grew so fast and strong as to become almost totally unmanageable. The war did not retard its progress—it increased it. The thing would have grown beyond control anyway. Centralization cannot cope with it. If we are to have one we cannot escape the other. Big cities cannot be made at the expense of the rural districts without the latter being depleted in population, and

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production falls off. If life isn't worth the High Cost of Living, as one writer puts it, wouldn't de-centralization make a very good foster mother for H. C. of L., which is now pretty well grown up? Would de-centralization be able to make amends for the faulty early training of this high-flier? One thing is certain, unless more people take an interest in farming and rural employment and plan to make it a life work, it is going to cost those in the big centers more to live. We cannot have the white lights and the red wheat all at the same time. Possibly there may come a back-to-the-land movement. Some of those centralized may eventually decide that it is better to farm and eat three "squares" a day than to be centralized and have to cut down the appetite to make ends meet. Most of them will not go back till they have to. Do you think de-centralization possible?

It Pays to Feed.

When feed is plentiful most farmers feed their stock well, but there are some who are invariably "poor feeders." In times of shortage many are practically forced to cut down the allowance to their stock, but it is a question whether it ever pays to feed less than an animal requires for health and thrift. We do not believe it does. A thin herd is a poor advertisement. It means that the breeders in it are called upon to raise young at the expense of their own emaciated systems. The young never get as good a start and it takes more feed later to bring the dams up to their normal breeding condition and to give their offspring the proper start in life than it would have done to have kept the breeding animals up in the first place. In the end it is generally cheaper to buy a little high-priced feed rather than let the stock down too low in flesh and attempt to bring it back later when feed may be cheaper. Fat is easier maintained than regained. Right now is a good time to remember this. Send the stock to pasture in as good condition as possible. In many sections there is still three weeks or a month before good grass. Keep up the milk flow by feed. Maintain condition by extra feed if necessary. It will pay in the end.

Nature's Diary.

A. B. KLUGH, M. A.

For the earliest spring flowers one must look, not on the ground, but on the trees and shrubs. Earliest of all are those of the Red and Soft Maples, and the flowers of these two closely-allied species are very similar, the main differences being that those of the Red Maple have petals, while in those of the Soft Maple petals are absent, and that the filaments of the stamens are longer in the latter than in the former. As a rule the flowers of the Red Maple are crimson while those of the Soft Maple are yellow, but sometimes those of the Red Maple are yellow. Usually the flowers of both species are dioecious—that is having pistils and stamens borne on different flowers, but frequently they are perfect, the same flower bearing both pistils and stamens. If a pistillate or perfect flower is closely examined, the little two-lobed ovary will be seen at the bottom of the cup formed by the calyx, and it is this structure which later on becomes the two-winged "samara" or "key" with which we are so familiar.

Another tree on which the flowers appear early is the American Elm. The flowers of this species hang in little drooping bunches, and are greenish in color. The calyx is bell-shaped and four- to nine-lobed, there are no petals, and the stamens project well beyond the calyx. Soon after the time of flowering the ovary takes the form of an ovate-oval, flattened samara with broadly-winged margins. Our other species of Elm, the Slippery and the Cork Elm, bloom at about the same time as the American Elm. Better known than the flowers of the above-mentioned trees are those of the Willows, the unexpanded catkins, just after bursting from the buds, being our much-beloved "Pussy-willows,"—little soft, gray Persian "pussies". Later on when the catkins expand we see that they are of two kinds—green and yellow. The green ones are the pistillate catkins and often attain a considerable length. Each pistil develops into a pod from which still later are shed the downy-tufted seeds. The yellow catkins are staminate, and derive their color from the golden anthers of the stamens. We have in Canada a large number of species of Willows, in some of which the flowers appear before the leaves and in others at the same time as the leaves. The Willows are one of the groups with which the beginner in the study of botany is sure to have a good deal of trouble, as not only are there many species, and many different species with very similar leaves, but the fact that the two kinds of flowers are always borne on separate shrubs and that both kinds of flowers are often necessary for the identification of the species, that mature fruit is needed for identification in some cases, and that they hybridize quite freely, renders them a hard group to work out.

Another shrub, which blooms early, is the Alder. In this species the flowers are borne on separate catkins but on the same shrub, the pistillate catkins being oval and about half an inch long, while the staminate catkins are cylindrical, from two to three inches in length, and hang wagging in the breeze like "lamb's-tails."

Among the early spring migrants is a bird whose abundance varies greatly in different parts of the Dominion—the Rusty Blackbird. In Labrador, Newfoundland, and Nova Scotia it is a common summer resident; in New Brunswick, Southern Quebec, Southern Ontario and Southern Manitoba it is fairly common as a migrant but does not breed (except in the case of a few isolated pairs). In the northern parts of Quebec, Ontario, Manitoba, Saskatchewan and Alberta it is an abundant summer resident.

This species is nine inches in length and varies a great deal in plumage according to sex and season. The male in spring is lustrous black with greenish reflections, or in the case of the earliest birds the feathers may still be edged with yellowish-brown, these edgings not being yet entirely worn off. The female is rusty-brown above and rusty and grayish-black beneath with a pale stripe over the eye, and with the quills of the wings and tail black. In the fall the male, female, and young are in a dress which much resembles that of the female in spring.

The nest of the Rusty Blackbird is a coarse structure of grass and mud, resting on a layer of twigs, lined inside with fine grass and rootlets, and is usually placed in bushes overhanging the water. The eggs are from four to six in number and are grayish-white marked with brown.

In the breeding season the food of this species consists largely of insects, particularly of such aquatic insects as Dragonfly nymphs, Mayfly nymphs, water beetles and Caddis-flies, and of other animals found about water such as snails, small crustaceans, salamanders and small fish. In the fall it eats insects and some weed-seed, and also picks up some grain which has been left on the ground after harvest.

This species is usually seen in much larger numbers in Southern Ontario during the fall migration than during the spring, and it would appear as if it is one of the species which has a different migration route for the spring and fall migrations.

In the smoking compartment of a coach on one of our leading railways a rotund business man, smoking a fat cigar, recently remarked: "Farmers are the people who are making lots of money now. They get everything they want." And in the next breath he told his friend that he owned a farm which had been in his family for over a century, "but," he said, "I never made any money off it; it has always been a bill of expense." What was wrong? Was he a poor farmer, or was there really much money in farming? Think it over.

THE HORSE.

The Brood Mare at Work.

Many an in-foal mare will be called upon to do her share of the farm work during the next few weeks of rush, and provided care and consideration is given it is well that she should work. Experience has proven that the pampered and petted brood mare, which her owner considers too nice to work, rarely is as successful in the breeding stud as is the mare usually kept in a little lower condition and called upon to do a fair share of the farm work. It is necessary to start easy at first. Some arrange to work the brood mare half a day about with a newly-broken colt, or in other cases where two brood mares are kept to work them half a day each. They should never be rushed and should not be called upon to draw heavy loads over soft ground. It is wise, where possible, to keep them off the tongue when used on farm implements during seeding operations. Put them on as outside horse in three or four-horse teams. They will do better work on the harrows than on the cultivator, and must not be "pushed". See that the harness is properly adjusted. It may be necessary to use a longer whiffletree and to give the in-foal mare a double-tree advantage of probably two inches or more. Traces should be wrapped to prevent rubbing her sides sore.

When work begins, extra care should be taken with the feeding. Do not increase the grain ration rapidly when first put to work. A tired animal is not in as good condition to digest strong feed as is one that has rested. Avoid feeding grain when the mare first comes into the stable and do not allow her to drink too much cold water when heated. A little bit of water and often is a safer practice. We remember the case of a young brood mare, one of the right kind, a big, strong and thrifty individual, being lost through a little carelessness in feeding during spring work. She became very much heated during a warm afternoon and when brought in at night seemed tired, but otherwise all right. The owner turned her loose in the lane to pick at the grass which was just beginning to grow. She was left there about an hour when she began to show unmistakable signs of indigestion which became acute and she died. The little bit of green feed to which she was unaccustomed, and which she took when a little overtired killed her. It is necessary to be careful when making changes in rations when the brood mare is working hard, and it is advisable also to feed rather sparingly on grain at first, gradually increasing as she becomes more accustomed to work and extra feed. Where at all possible keep the working brood mare in a box stall where she can rest far more comfortably than in a narrow stall where she is tied. Take some pains to keep her legs rubbed dry at night and the currycomb and brush will help keep her in good condition. Until grass comes do not neglect bran in the grain ration.

Stick to One Breed in Top-crossing.

"The Farmer's Advocate" has always recommended that the breeder have a definite object in view in all his breeding operations. This applies to the horse breeder as well as to breeders of other classes of stock. The majority of colts raised in this country are the progeny of cross-bred or grade mares, and it would be well for those who start breeding such mares to set out with an idea of improving the horse stock, not only of their own stables but of the country. Haphazard breeding leads to failure and disappointment. Breeding toward a definite object, while presenting many difficulties, will, if properly followed up, bring satisfaction and success. Take the cross-bred or low-grade mare to begin with. Her type and conformation must show something of her breeding. If she resembles the Clydesdale, and has Clydesdale blood in her the logical thing to do would be to breed her to a good Clydesdale horse. If she shows signs of Percheron breeding use a Percheron sire, and so on down through the breeds. But it is folly to use a sire of one breed one year and another breed the next, and worse yet to breed to a Clydesdale horse and if the progeny happens to be a filly, too, when it reaches breeding age, out-cross with a Percheron, Belgian or some other breed. This is a waste of time and effort. Grading up properly carried on will produce, in a few generations, animals eligible for registration. It will produce also animals of a very high order. We recently saw a brood mare which would weigh probably 1,800 pounds. She was of high quality; in fact, so good a mare that we asked if she were not imported. We were informed that she had three top crosses of Clydesdale blood, was not eligible for registration but that her owner was following out the grading-up process in the hope of getting registered stock. As an individual she was a better mare than many which have their papers. So that we say, in starting horse breeding operations with grade or cross-bred mares select the breed to be used as top crosses and stick to that breed and the best individuals of that breed as sires through thick and thin. We remember a little old mare of about 1,350 pounds weight and sired by a Clydesdale horse which raised, bred to the best Clydesdale horses in the neighborhood, several foals some of which were fillies. One of these fillies in particular was used as a brood mare and mated with a Clydesdale sire, and she produced colts which drew favorable comment from many a Clydesdale fancier. The thing is not to jump from one breed to another but to select a breed and use it until its type is firmly fixed.

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Weighty, High-quality Stallions Scarce.

According to those who are looking for first-class stallions to put on the road this season or to use at the home stable the right kind of big drafters are scarce. We recently talked with a man who had been searching for several days for a Clydesdale horse for his own use. He wanted a sire weighing somewhere between the ton and 2,200 pounds, favoring an animal around 2,100, and after searching "high and low", as he put it, he was about to come to the conclusion that big horses with quality were scarce, while there were more little horses showing an abundance of quality but not enough draft type and character. His own mares were described as well-graded-up Clydesdales and in order to get the size he wanted in the sire to mate with them he was, at the time of his conversation with us, seriously considering the purchase of a Percheron horse, largely because he knew where he could get a big Percheron and a horse which he described as having the quality he desired. As a general thing we do not think it good practice to cross a number of well-graded-up mares of any breed with a horse of another distinct breed.

But there is a point to be brought out by this story. It has been hinted on many previous occasions that breeders were paying undue attention to quality and were neglecting size. No one would for a moment care to make light of the importance of the best of quality in any breed of horses, but at the same time when drafters are being bred for heavy work, size, substance, bone and muscling are absolutely essential. The horse buyer pays a premium for the big, weighty gelding; if size is not there the owner must take less money for his offering. It is necessary, therefore, if the top market price is to be obtained to breed them as large as possible in combination with the best of quality which can be linked up with size. Our friend told us that he could find plenty of horses with quality but as he described it "they were smooth little fellows" and he did not want them. Is it a fact that our draft horse breeders have somewhat neglected size in their enthusiasm over quality? Would it not be advisable to pay a little more attention to weight and substance, at the same time retaining all the quality possible? We like a horse with clean, flat, flinty bone, large hoof heads and big, wide feet, but we also like one with a strong top, a good middle, plenty of chest capacity and a well-rounded, full croup, and the whole heavily muscled. Let the aim of the mare owner be to breed for horses of this kind. In order to get them he must use them, and this year is a good season to start. Every draft mare should be bred to the best available big draft sire in 1917.

Two Types.

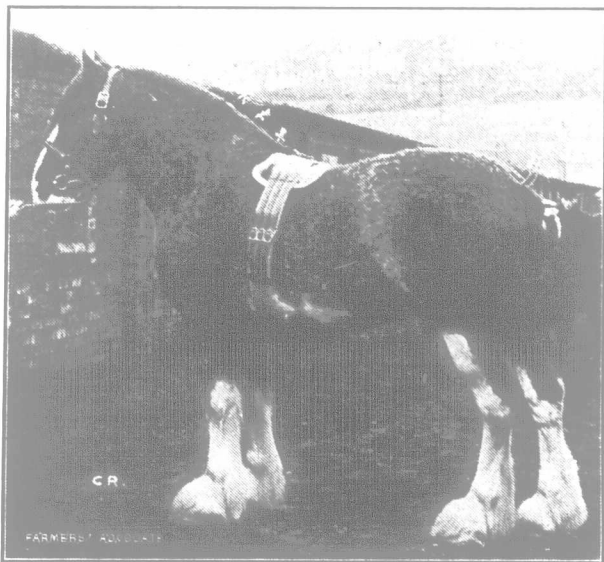
While from a money standpoint and strict breeding operations the heaviest type of horse is favored by the man interested in draft-horse breeding, there are many farmers, however, who for their own work favor a lighter type of animal. They hold that a horse weighing 1,300 to 1,400 pounds will do ordinarily, as much work on the farm as will the 1,600 or 1,700-pound drafter.

Of course something depends on the class of work, but on harrows, drill, single plow and such implements and even on the mower, rake and binder the lighter horse may show a little more marked inclination to-

wards speedy walking and may get over the ground a little faster. A great deal of this speed in walking in any size or breed of horses depends upon their early training. It is important that every colt be taught to walk briskly. Sluggish goers are not the best for road or farm. There is considerable argument in favor of the lighter type of drafter for a farm-work horse, or if you like of a heavy, general-purpose or a good agricultural animal, but when horses are bred for work and sale combined it would generally pay the breeder to make his matings with a viewpoint to getting as much size as possible. And for the farm there are those who believe that three extra good and heavy drafters will make a team capable of doing as much heavy farm work as a four-horse team of the lighter type, and they believe that there is a saving in feed and care. However, as previously stated, from the standpoint of farm-work horses there is an argument in favor of both types, but when it is considered that all horses should be bred with a view to obtaining the best market price, the heavy drafter should have the preference.



Craigie Litigant.
First-prize two-year-old Clydesdale stallion,
Glasgow Stallion Show, 1917.



Kismet.
Winner of the Cawdor Cup and Brydon Challenge Shield,
Glasgow Stallion Show, 1917.

LIVE STOCK.

Half Rations Fed at a Loss.

Many a stockman who has reached the top rung of the ladder of success began at the very bottom. He started with grades and through a judicious grading-up policy, sticking to one breed, finally gathered a herd around him consisting of individual animals which would compare very favorably with many pure-breds. Realizing that the breeding of pure-breds was a little farther advanced than that of grades he gradually replaced the grade herd with pure-bred animals. This we believe is good practice and to be encouraged. The breeder must not go too fast, nor yet he must not be too slow in culling out his grades and replacing them with a good class of pure-breds. It is not advisable to attempt to keep all the grades the farm will carry and then a pure-bred herd on top of that. We have visited farms where a number of pure-bred cattle were in the stalls, and where there was still retained in the herd such a large number of grades that neither grades nor pure-breds were getting proper attention. The grades were too thin and so were the pure-breds. It was a case of too much stock for the feed available, and the obvious and the advisable thing to do under such circumstances is to rapidly reduce the grade herd and pay more attention to the pure-breds. A starved pure-bred is not as profitable as a well-fed, thrifty-conditioned grade. True, most of our farms are not overstocked but some are, and, strange to say, on a large number of these there are to be found herds composed partially of pure-breds and partially of grades, with too many of the latter. It is better breeding business to give one animal a full ration than to attempt to keep two on half rations, because the latter practice spoils the appearance of the entire herd, loses sales and does not make for success.

Silage from Crops Other than Corn.

Over a large portion of Old Ontario corn is King of all silage crops. It yields abundantly in a favorable season, and matures sufficiently to make a satisfactory, succulent and nutritious roughage for live stock. In South-western Ontario particularly farmers can mature large yields of corn and ensile it to good advantage. Farmers in Eastern Ontario, too, find this method of storing feed helps to keep more stock, and in better condition than they can do without it. However, corn requires a long season with a liberal amount of sunshine to ripen properly, so portions of Quebec, the Maritime Provinces, the northern part of Old Ontario, all of New Ontario, and large sections of the West do not find corn a trustworthy crop. We would not have the reader infer that corn for silage purposes cannot be produced in these provinces and parts of provinces mentioned. The writer has seen what appeared like good corn silage produced at Truro, N.S., and throughout the West. But the analyses of corn silage grown in those provinces reveal the fact that it does not contain as much food nutrients as will be found in well-matured corn in countries better adapted to its production. Furthermore, in Nova Scotia another crop has been tested that will make just as good silage as will the corn grown there, and it can be produced with much less labor and expense. Surely there are limits to the territory where corn is the most satisfactory crop to grow for silage purposes, but beyond those latitudes, or whatever the limit or dividing line may be termed, what are the most satisfactory crops? That is the question, and it will remain the question until further and more complete experimentation establishes some data upon which farmers may rely. Experimental work in this regard is wanting, for, since the silo proved itself as a suitable place to store corn, investigation has been conducted with maize chiefly, without adequate regard for those regions where corn never was and never will be, so long as climatic conditions remain as they are, an appropriate crop to grow. One cannot get away from the fact that the silo, when supplied with the proper material and handled consistently, will house a great quantity of feed in a small space and give it up in a succulent condition, and so modified as to have a beneficial effect upon

almost all kinds of live stock. But if the raw material suitable for the silo cannot be produced, then the structure is a waste of time and money, and the farmer should devote his energy to the production of roots, which have a very prominent place in live-stock countries of northern latitudes.

The proper program, as we see it, is first to determine the approximate boundary line between the districts where corn can and cannot be profitably handled as a silage crop, and then ascertain by experiment what will be adaptable to the non-corn-growing territories and how it will ensile if found suitable as a crop. No doubt a silo would be a mistake in many localities, but if some institution had the matter well in hand they should be able to advise the farmers as to this, after taking into consideration local and climatic conditions, temperatures, crops and farm practices. We should like to see the silo invade communities east and north where it is not known, but it would be a grave error if the territory so explored happened not to be suitable for silos or silage crops. It seems almost time, too, that we had more information about the ensiling of legumes, which at various seasons of the year are difficult to cure, as hay, and experiments similar to the one suggested by the accompanying illustration, which shows a battery of silos erected at the Kansas State Agricultural College, would, if properly conducted, furnish data that is badly needed in Canada. Occasional reports reach us from individuals who have ensiled clover and alfalfa satisfactorily. Notwithstanding, there is not sufficient carefully compiled information dealing with the practice.

The Theory of Silage Making.

With the properly-constructed silo there is no great difficulty in making good silage from corn and similar plants, provided the crop when put in contains ample moisture and has reached a fair stage of maturity. The starches and sugars, common to such, undergo fermentation and a certain amount of acidity is produced which preserves the mass. With legumes and other crops it is different; they do not possess the same amount of starches and sugars, and consequently the fermenta-

tion which follows does not produce the same acidity or the same general results. There are those who believe that the whole problem of making good silage is to arrive at a suitable moisture content of the crop when put in. This is a factor that cannot be overlooked, but it does not appear so important as the percentage of starches and sugars which furnish the preserving acidity of the ensiled mass after fermentation. No doubt the moisture and starches or sugars work together in such a way as to produce the desired results.

O. E. Reed, Professor of Dairying at the Kansas State Agricultural College, in an experiment, endeavored, by adding other materials with alfalfa, to supply ingredients high in starch or sugar so sufficient acidity would result from the fermentation. In one case 1 part of ordinary blackstrap molasses was mixed with 20 parts of alfalfa. In another case 1 part of corn chop was added to 10 parts of alfalfa. In a third instance 1 part of cane butts was put in with every 6 parts of alfalfa, and in still another silo, 1 part of rye was added to 2 parts of alfalfa. In all these instances the proportions were by weight. Alfalfa and molasses silage had an acidity of 2.035; alfalfa and corn chop silage had an acidity of 2.147; alfalfa and cane butts produced an acidity of 1.523, while alfalfa and rye silage produced an acidity of 1.813.

The results of this work led the experimenter to believe that a combination of molasses and alfalfa is the most practicable. The mixture permits of storing a considerable quantity of crop in a small space and the production of very good feed. The corn chop and alfalfa silage was relished by the cattle, and so was that composed of alfalfa and cane fodder. The green rye and alfalfa also kept in good condition, but enough feed cannot be stored in a limited space when alfalfa and rye are mixed in the proportion of two to one. The results were not good when straw was mixed with alfalfa, and the silage was worthless. Farmers generally in Canada would probably be indifferent about purchasing molasses to be ensiled, and corn chop would also have to be bought in districts where corn fails as a silage crop. On the whole these findings do not seem to fill the bill. Prof. Reed was good enough to describe conditions in

the State of Kansas where these experiments were conducted, and readers can, from his explanation of temperature and rainfall, apply his remarks, found in the following paragraphs, to their own surroundings.

Silage Crops For Kansas.

"The silo has become extremely popular during the past few years in Kansas. In 1910 there were less than one hundred silos in the State, and now there are nearly 1,200 in use. The reason for the increasing popularity of the silo is that the farmer has learned that the silo furnishes a means of saving feed, and thus has been able, by its use, to increase his live-stock holdings. Corn is the general favorite as a silage crop in Kansas. The reason for this is largely due to the fact that the corn plant is so universally grown and used for this purpose. When corn is compared with other crops for silage it is found to be a better feed, especially when the comparison is made on the ton basis. But the farmer should be interested in the acre yield. Sorghum crops make good silage, and in certain sections of the State they will make more feed to the acre than corn. This increase in yield will more than offset the advantage in feeding quality of the corn when put up as silage.

"Sorghum crops, such as Kafir, Milo, Feterita and Sweet Sorghum do much better than corn in sections where the rainfall is limited. The annual average precipitation for Kansas as a whole amounts to 27.85 inches. For the eastern third of the State it is 35.5 inches, and for the western third it is 19.35 inches. In the extreme southeastern corner of the State the precipitation amounts to more than 44 inches, while at the Colorado line on the west it is just a little more than 15 inches. Other climatic conditions, such as the date of last killing frost in spring, should be considered in the kind of crop for forage. In the southeastern part of the State the last killing frost appears about April 15, while in the extreme northwestern section frosts may be expected as late as May 10. Likewise there is a difference between the early frosts in fall of the year in various sections. The first killing frost in the southeastern section may be expected about October 20, while in the northwestern section, killing frosts are expected about October 1. The growing season for crops then is much longer in the southeastern section than in the northwestern portion of the State.

"Those crops should be planted that will have time to mature in any particular section. The crop that has time to mature will usually make the greatest amount of forage as well as mature grain. There are varieties of sorghums that are adapted to short-growing seasons as well as to long-growing seasons, and the farmer must study his climatic conditions and plant the crop that is best adapted to his locality. The sorghums are drought resistant and will, on the average, yield more tonnage in forage per acre than corn. A few years ago there was little use made of sorghums for silage. The experience of many farmers had shown that when sorghum crops, and particularly the sweet sorghum crops, were put into the silo a sour silage resulted. Experiments at the Kansas Station have shown that sorghums can be made into first-class silage. The reason sorghum silage is often sour is because it is put into the silo too green. The grain should be practically mature before it is cut for silage.

"The legumes cannot be made into silage successfully unless they are mixed with some such crop as sorghum or corn or other materials. These crops make a much better hay crop and are far more valuable as such. The Kansas Station has just completed a series of experiments with alfalfa silage. The experiments were planned and carried out with the view of saving the first crop of alfalfa that is usually damaged by rain. The addition of ground corn, molasses, sorghum fodder and green rye to the alfalfa, as it was put in the silo, gave fairly good results."

O. P. V. Silage.

Several years ago at the Nova Scotia Agricultural College, a mixture of oats, peas and vetches was tried as a substitute for corn, which does not do any too well in the Maritime Provinces. It was found that this mixture yielded more dry matter per acre than did corn, grown there, and the silage made from it was just as good. The labor connected with growing the O. P. V. mixture, as it is called, is less than half as much as that required to produce a crop of corn; so taking everything into consideration, the mixture was preferable to the straight corn crop. In 1914 an average of 11 tons of

O. P. V. to the acre was produced in a five-acre field, while in the same season corn yielded only about 8 tons to the acre. The season was cold and backward, and the conditions that made for a heavy crop of oats, peas and vetch gave a light yield of corn, with practically no ears formed. An analysis of the silage from the two crops is given herewith:

Constituents.	O. P. V. silage per cent.	Corn Silage per cent.
Dry matter.....	28.15	20.00
Protein.....	2.31	2.37
Carbohydrates.....	23.42	15.33
Fat.....	.83	.88
Ash.....	1.59	1.42

A comparison of these results shows that the oats, peas and vetch were quite superior in dry matter as well as carbohydrates, and when less than half as much labor is required to produce it, one can understand how it will commend itself to the Maritime farmers.

In 1915 these results were practically duplicated, although the crop of O. P. V. was not quite so heavy and the corn a little heavier than in 1914. In 1916, owing to climatic conditions, the oats, peas and vetch fell slightly below corn in dry matter per acre, but over a number of years its average is superior to that of corn in this regard.

While this mixture does not require so much fertilizer as turnips, corn or potatoes, yet it requires more than is ordinarily given the grain crop. No farmer should attempt to grow it unless he puts his land in first-class condition, and it is the first crop to be planted in the spring. Last year at Truro it was sown about May 1 and harvested on August 10, just as the oats were coming into the dough stage and when there was only a little yellow color beginning to show on the straw. If left until the oats get too ripe it will not pack well in the silo and is liable to mold. It is cut with the mower and blown into the silo with the same machinery as is used for corn. The seeding for the mixture is made up in the proportion of 2½ bushels of banner oats, ¾ bushel of golden vine peas, and ¼ bushel of annual vetch per acre. Ordinarily it contains about 28 per cent. of dry matter when cut and put at once into the silo.

The O. P. V. mixture has found its way into New Ontario, and has given very good results at the Provincial Demonstration Farm at Monteith. The report of the Farm for 1916 has the following to say for this silage crop:

"We mixed 2½ bushels of oats with ¾ bushel of peas and ¼ bushel of vetches and sowed this mixture with the grain drill at the rate of 3½ bushels per acre. Although we had a dry summer this crop grew to be quite heavy. When the oats were in the dough stage and the peas and vetches were still green this crop was cut with the ordinary grain binder. The sheaves were cut and blown into the silo. Ours is an ordinary stave silo, 16 feet high and 11 feet in diameter. Three acres of the O. P. V. mixture filled the silo this year about two-thirds full. We started feeding silage early in the fall, and we found that the cattle were very fond of it. In appearance it is very similar to ordinary silage only that it is considerably finer. The silage is a greenish-brown color and tastes and smells very much like the ordinary silage made from corn. It will be interesting to farmers to know that this crop so far has proved very satisfactory, and we are contemplating carrying out this work on a little larger scale another year."

Other Silage Crops.

At the Branch Dominion Experimental Farm at Agassiz, B.C., clover and corn silage have been tried side by side, and the Superintendent reports thus in 1916:

"The quality of the clover was good, but the corn was excellent. The cows appeared to enjoy the corn the more. The results obtained are practically a repetition of those obtained last year. If clover silage is well made it is evidently a close rival of corn silage for milk and butter production, but if not put up properly it has no place in a dairy stable."

At the Lacombe, Alta., Station, silage is made from peas and oats, and the Superintendent is partial to such a mixture, for in his 1916 report he says:

"From the experience of the past two seasons we believe that dairymen all over the Province will find the silo worth while. It is true that the silage freezes during the extreme winter weather, but it is taken out to affect injuriously the feeding value of the silage. Since the yield of peas and oats per acre, when the oats are cut in the late milk or early dough stage, will run from eight to twelve tons of green weight, the amount of feed produced per acre is considerable and will compare favorably even with corn, particularly when the average of the tests indicates that the cost of producing a pound of butter with corn silage, such as we can produce, is more than twenty per cent. greater than that with silage made from peas and oats."

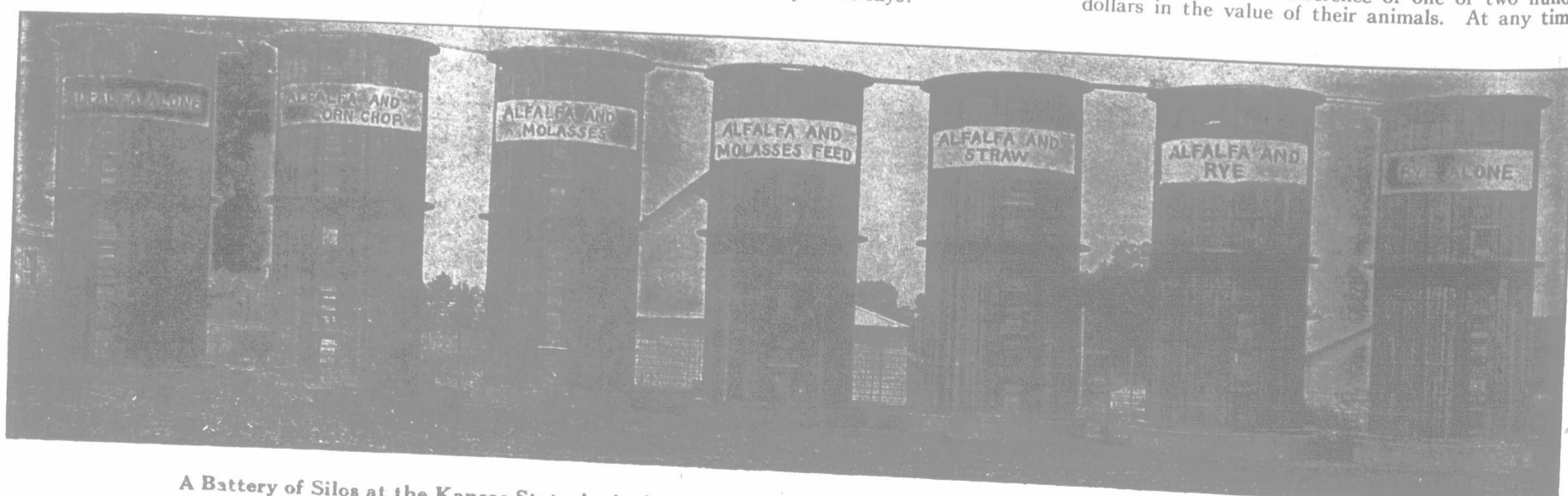
It has been demonstrated that corn is not the only crop that can be ensiled successfully. Clover, oats, peas and vetch; oats and peas, and other crops have been tried in different provinces. Would it not be well to try these side by side and determine which most nearly approaches good, fairly-mature corn silage in keeping qualities and food constituents? The same test should also establish some data with regard to the factors making for good silage out of crops other than corn.

Costly Crossing.

Occasionally one finds a man with rather strange ideas with regard to the laws of breeding and the methods of carrying on breeding operations. Once in a long while a careless breeder is found who, with a number of highly-bred pure-breds of one breed of cattle, takes a notion into his head that they should be crossed with a male of another breed. If they are beef animals he hopes to get better feeding offspring; if they are dairy cattle he has an idea that he can improve the milk flow of the herd. We recently visited a farm upon which there were three or four very good type and choicely-bred Scotch Shorthorn cows which for a few years back had been bred to a pure-bred Hereford sire. Steers from these cows were in the stalls. They were fine individuals, thick, fat and sleek, and were worth possibly twelve cents or a little better per pound. At the same time bulls and heifers from pure-bred stock of the same breeding, and bred pure, were selling from \$200 to \$300 apiece at around twelve to fifteen months of age, and in no higher condition than were the cross-bred steers mentioned. This is one case where crossing certainly did not prove profitable, and we believe there are hundreds of such cases which might be cited. If a man has a well-bred, pure-bred cow which is a good individual and a regular breeder, he is very foolish indeed to attempt cross breeding when sires of the same breed as the cow are available, as they were in this case. It means a loss each year, because it does not give any opportunity of building up a herd. Crossing, carried beyond the first generation, is inevitably a failure. Crossing of pure-bred stock of high quality is always a mistake, unless it is under some circumstances, in connection with pigs, for instance, where the feeder has reason to believe that a cross between a Yorkshire or Tamworth sow and a Berkshire boar will produce easier-feeding and earlier-maturing hogs for the market. But, as a strict breeding proposition, crossing is not to be recommended.

Keep the Good Pure-Breds Registered.

Many instances have occurred within the last year showing negligence on the part of stock farmers to record their pure-bred animals in the past with the result that they now have whole herds pure in breeding but not registration, because some ancestor is not recorded and cannot be traced. Any man is very lax to introduce unrecorded females into a pure-bred herd to use for breeding purposes and still more slothful if he permits an unregistered bull to be mated with his registered cows. During the years of comparative quiet in the pure-bred world, some who had pedigreed stock, but not enough ambition or foresight to use high-class sires to improve what they had, drifted, so to speak, but now, when the demand is exceptionally keen, they see the folly of their ways and realize that a registration certificate would mean a difference of one or two hundred dollars in the value of their animals. At any time a



A Battery of Silos at the Kansas State Agricultural College, Used in Testing Various Crops for Silage Purposes.

male calf, not up to the standard, should be steered, and heifers of poor individuality should not be used as foundation breeding cows, in which case it would be useless and an abuse of the Record System to register them. However, if the females are to be kept in the herd and mated to pedigreed bulls, they should be kept recorded in strict accordance with the requirements of the established system. These remarks are not based on isolated instances. When the county pure-bred organizations, which have been brought into existence during the past couple of years, for the purpose of creating a medium through which to sell, set about to round up stock for a public sale, the committees in charge discovered these conditions and it has very much hampered their work at the beginning.

A good breeder of pedigreed stock surely would connect himself with the association representing his favorite breed. Registrations then would not be a heavy financial burden and he would record his young stuff promptly. There is nothing to be gained by sitting down on the job or drifting. Everytime a new sire is purchased get a better one, if possible, than the last and thus advance rather than recede. When purchasing, too, be careful about the certificates of registration and see that they are forthcoming. A breeder who is lax about furnishing certificates is a poor man to deal with. Do business with business men.

A Record Hereford Society Sale in England.

The English Hereford Herd Book Society Sale, held last month in the home of the breed, beat all previous records, when 175 "White Faces" passed through the ring for a total of \$56,721, or an average of \$322.32. Twenty-seven animals made from 100 guineas to 320 guineas; the latter being the top of the sale. Calculating the guinea as equivalent to \$5.11, our currency, this represents the range of from \$511 to \$1,635.20. Seven sold at 100 guineas, one went for 105 guineas, four at 110 guineas, one each at 115 guineas, 120 guineas, 125 guineas, 140 guineas, 145 guineas, 150 guineas, and 155 guineas. Two sold at 160 guineas, one at 165 guineas, two at 175 guineas and one each at 240 guineas, 250 guineas and 320 guineas. It was the champion bull, Turgot, sent by J. Lewis, of The Haven, Dilwyn, Herefordshire, that made the highest price. This was a compact, well-marked and good-quality February yearling. He was purchased by Captain R. T. Hinckes. A large proportion of the offering was bought for the South American trade. The total for the 1917 March sale doubled the amount realized a year ago, also giving an increase of \$97.20 per head.

THE FARM.

Sandy's Weights.

EDITOR "THE FARMER'S ADVOCATE":

I've no' been feelin' ower weel for a couple o' weeks back, an' yesterday the auld meenister called in tae see me an' tae speir how I wis gettin' along an' tae hae a wee chat about things in general, as we aye dae when he comes around. "Weel, Sandy," says he, when he had heard a' he wanted tae ken aboot ma rheumatism, "ye'd better hurry up an' get movin' again. Spring is comin' an' we're gaein' tae be unco' scarce o' men this year. The country is gaein' tae need ilka thing in pants that we dinna hae tae send tae France; married men an' cripples an' a'. Ye've filled in yer National Service Card an' sent it tae Ottawa, I suppose, sae ye ken what the country is up against. It's men, mair men they're needin' a' the time. That's what is gaein' tae win this war an' develop oor country at the same time."

"Weel, Mr. Ferguson," says I, "I'm thinkin' they ought tae be able tae get what they want in that line. When I wis doon in Montreal last simmer I saw enuech men tae mak' ye wonder where they a' got room tae lie doon at night." "Aye, but Sandy," replied the meenister, "are ye sure they were what we are needin'? Were they what ye think we could mak' use o' in this time o' oor country's necessity?" "I dinna ken aboot that," I says, "The Lord made them an' I suppose they'll hae tae pass for men, as the ither chap said: What mak's ye think they'd no' fill the bill?" says I. "Just this, Sandy," says the meenister; "there's a large percentage o' the population o' oor toons an' cities that havena' had the opportunity or the inclination tae develop a character that will mak' soldiers or producers oot o' them, an' those are the twa things oor government is tryin' tae find at the present time. It's men wi' energy an' ambition an' perseverance that are gaein' tae pull us oot o' this hole an' set us on oor feet."

"Seems tae me, Mr. Ferguson," says I, "that a chap has tae hae quite a number o' qualifications before he becomes a man, in your opeenion." "Weel, yes, Sandy," he replied, "I hae a sort o' a balance for the purpose o' weighin' individuals that I become acquainted wi'. When I get tae ken them weel enuch I generally throw them intae one side o' the balance, sae to speak, an' then I pit the different weights I hae, in the ither side, an' I'm able tae tell just what percentage o' a man I hae tae deal with." "It's no' a bad idea," says I, "what dae ye call yer weights?"

"I'll tell ye Sandy," he says, "an' then ye can use the outfit for yersel'. The weights I use on this scale o' mine are called Honesty, Industry, Temperance, Courage and Kindness. There's just five o' them, but they'll weigh the biggest mon ye ever saw or ever will see. There is no' mony that can tip the beam against

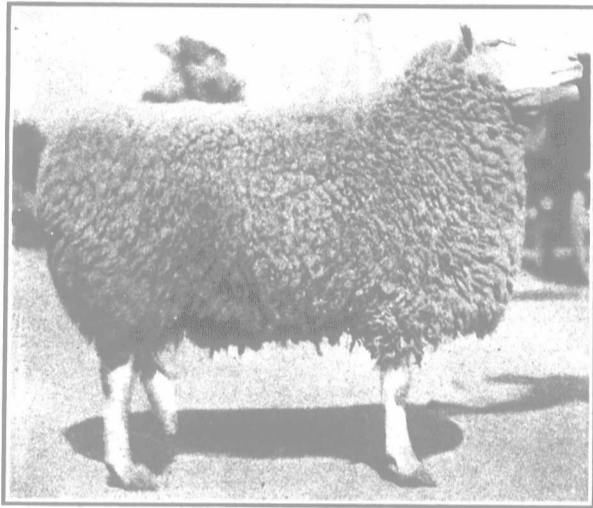
them a', I can tell ye that. Twa or three o' them will weigh the average man. An' it's a guid thing Sandy, "he went on," tae weigh yersel' on these scales every once in a while tae see how muckle ye're gainin', or losin' maybe. Ye ken scales are a mighty guid indicator o' yer general state o' health."

"That's right. Did ye ever try tae find oot yer ain weight on these scales, Mr. Ferguson," I inquired. "I did, Sandy," he answered, "an' I'm gaein' tae tell ye richt noo that I wis a wee bit disappointed at the result. They're an eye-opener, Ye'll find that oot, I'm thinkin'. Though, tae tell the truth, I've never weighed you on them as yet, Sandy." "It's juist as weel," says I, "I dinna want tae be churched at present, gin' it's a' the same tae you."

"O, we wouldna' dae that, although we found you a wee bit under weight," says he, "I always believe in gaein' a mon a chance tae build up, gin I find he's got a bit run doon an' I see he's tryin' tae pick up again. The scales will soon show the guid effect o' the richt kind o' an' exercise."

"What would ye call the richt kind o' diet an' exercise, under the circumstances?" I inquired.

"Guid healthy readin' an' thinkin' an' then pittin' yer thoughts intae practice," he answered. "Ye canna' increase yer weight sae that it will show on these scales o' mine unless ye dae this last. The only way tae mak' ony moral muscle is by wark o' some kind or ither, and the mair industrious ye are the mair muscle ye are likely tae develop."



A Good Type of Leicester.

"Weel, Mr. Ferguson," says I, "I'm no' dootin' what ye've been sayin', an' I'd like tae see those scales o' yours come intae general use. But at the same time I canna' help thinkin' that its a guid job oor recruitin' officers are no' compelled tae use them. I'm afraid Canada might hae a wee bit o' trouble findin' the half-million men she's promised for the war gin they had tae be a' weighed accordin' tae your style." "Ye may be richt Sandy," he replied, though I hae an idea oor boys wad show up better than ye might think. But this scale o' mine is no' intended for the recruitin' station in oor present stage o' civilization, an' while we are settling oor national quarrels oot o' court. It's for general use in the home or in the office or in the trenches for the matter o' that. Wherever the makin' o' character an' manhood is bein' carried on. Ye'll find it very handy on the farm, Sandy," says he. "Weel noo," says I, "before ye gang ye'll hae tae show me how it warks. I'd like tae see ye weigh yersel' on it Mr. Ferguson." "A'richt," says he, I'll dae it. But I'd rather be tryin' it on somebody else. Weel, tak' the first weight, which is Honesty. Tae be honest aboot it, I think I am honest. I can balance that one a'richt. The next one is Industry. What dae ye say aboot that Sandy? I'll let you dae the weighin' this time."

"O, ye're safe on that one," says I. "Ony mon that preaches three sermons a week, besides funerals an' a' the rest o' it is no' idle. I'll go bail ye're earnin' what ye get."

"The third weight is Temperance, an' I'm afraid it's ower heavy for me," says the meenister. "Ye look surprised Sandy, but it's a fact. I'm no gaein' tae the

bad wi' drink, but ye ken there's juist as muckle intemperance in the line o' eatin' as there is in drinkin', an' this gout that I'm troubled wi', is, the doctor tells me, due tae lack o' care o' ma stomach. Sae ye'll hae tae pit me doon short-weight this time."

"Well, what about the next," says I, "I guess ye're no' a light weight on Courage, gin I can judge by some o' the things ye tell us frae the pulpit."

"But that's what I am," says he, "an, it's in ma sermons that I show ma cowardice. Some day, maybe, I'll find mysel' able tae tell the truth, an' the hale truth, tae ma congregation, but it's gaein' tae be a matter o' time tae bring masel' up tae that point. Na, Na, Sandy," says he, "I'm short weight on Courage, I'm afraid." "These are close-weighin' scales" says I. How dae ye find yersel' on the last one. I suppose ye'll be makin' oot ye're no' kind noo."

"Ye'll hae tae ask ma wife an' the bairns aboot that," says he. I dinna think they'll say that I abuse them mair than they could expect frae a mon wi' the gout. Na, Sandy, I'm no' unkind tae ma family, but I'm gaein' tae tell ye this, ye ken I keep a coo. She's a nervous specimen, an' sometimes when I sit doon beside her to dae the milkin' she'll gie me a slap in the face wi' her tail. An' once or twice she's got her foot in the pail. But the ither day she went a step further an' stood on ma sore foot. It wis ower muckle for me. Sandy, I canna' say I wis kind tae that heifer. Ye'll hae tae mark me a short weight again."

"I winna' dae it," says I, I ken what ye were up against. Circumstances are too much for the best o' us at times. But I see noo how yer scale warks an' I'll maybe try it on masel' aifter I've seen what kind o' light-weights some o' my friends an' relations are."

"Weigh yersel' first, Sandy," says the meenister. "Maybe ye'll no' hae sae muckle heart aifter, tae be botherin' wi' yer friends an' yer wife's folks," says he.

SANDY FRASER.

Crops For Maritime Farmers in 1917.

EDITOR "THE FARMER'S ADVOCATE":

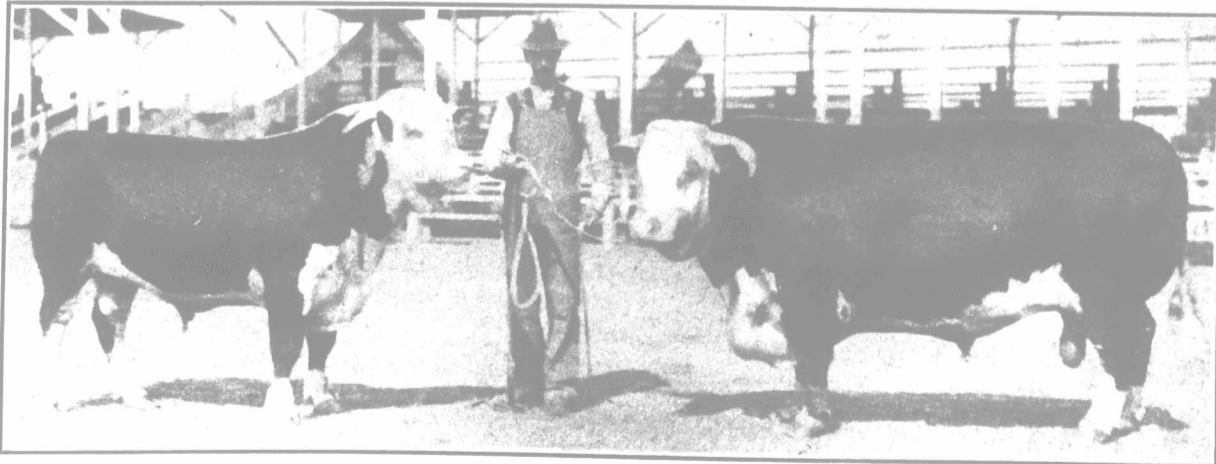
I have no wish to join the ranks of "arm chair critics", who are handing out free advice to our farmers at this time, for I think I fully realize that it is much easier to plan than it is to carry out those plans on the land. In fact I doubt if there ever was a time when the average farmer was more "up against it" than now; but it seems to me that a little consideration of the conditions that are likely to obtain during the next year or two may be of advantage. It goes without proving that food prices in general must rule high for the next year or two, with over twenty millions of the most efficient men of the world taken from the ranks of producers and added to the ranks of consumers (and destroyers) it is self evident that there must be a shortage of food, and the great question is what can we raise that will help most to supply the shortages?

Wheat? Yes we can raise wheat, and many farmers rejoiced that they had a good bin of wheat this winter with flour around \$11 a barrel, and still I do not believe it is advisable to increase the acreage of wheat in this country at the expense of oats or other coarse grains. This is not a great wheat growing country and the freight on \$100 worth of flour from the West, is much less than the freight on \$100 worth of feed; consequently feed is, as a rule, higher in proportion to its cost of production, than flour is. I would therefore advise the sowing of more oats, or perhaps mixed grains for feeding, rather than wheat.

Potatoes is the one crop used for human food that we can produce in quantities sufficient for export; and it seems to me that we can count on at least a fair price for all we can raise this season. The real scarcity and extremely high price of seed potatoes in Ontario and the Eastern States is almost sure to result in a small area being planted, and even if we have a great surplus, Europe will certainly need them if they can be sent there.

Other root and vegetable crops will be all right for those farmers who can get the necessary labor to produce them, but many farmers have given their sons to the army and are left short-handed and must produce crops that do not require too much hand labor.

Hay is likely to be quite sufficient for the demand. Owing to the depletion of the farm labor supply, a smaller acreage must be cultivated, consequently a larger area will be left in hay and with the big surplus



Brae Real 6th

Bonnie Brae 31st.

Junior and senior champions at Toronto, 1916 (father and son).

that must remain from the bumper crop of 1916 there will certainly be enough hay, unless the crop of 1917 should be very light.

As to live stock and live-stock products, there can be no doubt about the price, and the man who can increase his flocks and herds either of cattle, sheep, swine or poultry is sure to be well paid for his work. It must take several years for the supply of beef cattle to anything like equal the demand, or for prices to get down to where they were before the war. The supply of hogs or sheep may be very much increased in a year, but it takes two or three years to raise a good steer, and it is almost certain that prices of cattle must rule high for several years to come. Farmers should therefore be encouraged to raise every calf possible, bob none, and veal very few, and raise all the feed possible for the stock, and in my opinion there is no question about the reward,

Cumberland Co., N. S.

C. H. BLACK.

"Dad" and the Boy.

EDITOR "THE FARMER'S ADVOCATE":

Not long since you made editorial comment on the prevalence of feeling evinced by the "Young Farmers" in their recent letters to the Advocate that "Dad" had not been as generous-minded as he might be to the "boy". You are good enough, however, to assume that the "old man" was generally about as considerate as circumstances would permit.

Now there are "Dads" and "dads", some of them as far as generosity goes are capital while others are in very small type.

I know one farmer who brought his boy up with the feeling that manual labor was beneath him. This boy never knew until his father died what work was. The old man did the chores, took the heavy lifting and the dirty, disagreeable work and the boy did the riding. He spent much of his youth with a fine horse and buggy and was considered a very good-looking and well-dressed young man, and withal a graceful dancer. He is to-day a broken wreck, worthless both financially and morally.

This father made a fool of himself, and ruined the

boy for life by mistaken kindness and coddling. At the other extreme, there lives in my memory, a farmer who kept his boy as an unpaid drudge on the farm until he was thirty-seven years old, scarcely gave him a kind word in that time, and often took stock that the young man had raised for his own and sold it, pocketing the proceeds.

This was a healthy, muscular young fellow, good-natured and not particularly intellectual, always hoping that the "old man" (who spent most of his time in making money by speculation, while the boy worked at home) would give him the farm.

Finally the "boy" got married and the "old man" had grace enough to sell him the farm and get out.

Nine out of ten boys would have left home under these circumstances at twenty-one years of age and never gone near the father again. Now there are a lot of farmer fathers who fit in between these extremes. My own father passed when I was a six-year-old. Possibly that's why I am on a farm—I taught school and paid for an education and paid for the farm by muscle. Whether my own boy is being considerably treated perhaps I am not in a position to judge. He will probably pass out of the high school at sixteen, while his father scarcely knew how to read and write at that age—He has a bicycle, snowshoes, skates, watch, and a young horse, two or three suits of clothes and drives the family car, and pocket money. At his age his father had one pair of wooden strap skates, one suit of clothes, and one pair of boots.

Am I spoiling him? Well, he has to get up at 5.30, help do the chores and other work before and after school, and on Saturdays. He never spends time away from home without consulting me and he must account for his doings while he is absent. He also has to account for the money he spends, and keep up with the "old man" in the work on the farm in holidays. I consider that a certain amount of downright absolute drudgery is one of the best educators of youth and one of the strongest factors in the development of a strong, reliable character and self-reliant manhood. It is this same drudgery and the appreciated value of money learned by privation on our farms that has placed and is placing our country boys in the highest

positions of trust and honor to-day. The muscle, endurance, industry, and self-reliance built into the make-up of our farm boys by the unremitting labor and drudgery of their early youth is just the material that will make them "hang on" and push where the effete, pap-fed, pleasure-fed, city-and-town youth will let go and pass out. Sand pluck, and tenacity are the properties necessary to-day for success. Don't try to keep your boy on the farm against his will, but give him a square deal while he's there. Try to make home a place that he will want to come back to in after years, but don't coddle him. Show him that honest toil and drudgery never killed a man but has made many good men.

N. S.

R. J. MESSENGER.

Grow Artichokes—Work or Starve?

EDITOR "THE FARMER'S ADVOCATE":

In this time of Empire stress may I make a few suggestions. We all understand that the food shortage presents a very serious problem, and will continue to do so as long as the war goes on. In view of this fact there is one crop which I think has not been grown and used to anything like the extent its productiveness would warrant in this country. I refer to artichokes. Hundred-pound hogs will put on flesh at the rate of one and one-half pounds each per day at a cost of about two cents per pound feeding on the crop right from the field. In the Southern part of Ontario they would have nearly three months to run on the artichokes and dig their own feed. The workers and fighters need food in the form of pork and it is our duty to produce it. Dominion Bulletin 51 on the Bacon Hog in Canada contains much valuable information on this subject.

I must also mention another subject in passing and that is the number of idlers or at least non-producers in our cities—young men, joy-riders and time killers, who are useful only to make food for the more worthwhile workers. Some scheme of "work or starve" should be evolved to deal with that class it seems to me.

Elgin Co., Ont.

P. N. HAIGHT.

Canada's Young Farmers and Future Leaders.

Rotation Doubled Yields.

EDITOR "THE FARMER'S ADVOCATE":

Previous to starting the short or three-year rotation our farm was cropped in hit-or-miss system. Some of the land was in a fair state of fertility, and some of it was in very poor condition. We had in all one hundred and fifty acres, some being rather heavy clay, but as a whole pretty well suited to growing clovers.

Up till five years ago we had been growing hay (mostly timothy) oats, wheat, and a little corn, the majority of this was fed on the farm to the dairy cows and young stock, the corn being fed in the fall and early winter, as we had no silo at that time. Our corn crops were not of the best, as the land seemed to be too close and heavy to get in good condition for the seed.

This spring we decided to change our method; we seeded practically all our spring grain crop, using a mixture composed largely of red clover. The catch was very good, so we were able to seed all our spring grain the following year, using all red clover. As we were cutting only one crop of hay off each seeding, and using plenty of clover seed, we found it unnecessary to use timothy. We have followed these methods up to the present, and have, by this rotation and better cultivation, been able to practically double the yield of all our crops.

This short rotation works in admirably on a dairy farm where sufficient help is available, however, in view of the shortage of farm help for the coming summer it will perhaps be better instead of seeding all with grain, to use one of the annual pasture mixtures, and in this way let the cows harvest a part of the grain crop. The pasturing during the summer is not injurious to the young clover.

Middlesex Co., Ont.

SUBSCRIBER.

A Dairy Farm Rotation.

EDITOR "THE FARMER'S ADVOCATE":

We follow dairying, principally, on our 100-acre farm. The soil is black muck with numerous clay gravel knolls and some clay loam. It is good, strong land and will grow almost any variety of crop. Some of it is too low for alfalfa, but we usually keep about 20 acres seeded to this valuable crop, on the higher land. This ensures plenty of hay and some pasture, but does not come in the regular rotation, as it is left as long as it will stay in the land, the older it is the more hay it produces.

The rotation we have been trying out on our farm is a four-year one, but a little different from that ordinarily practiced. The usual four-year rotation is: first year, corn; second year, grain; third year, hay; fourth year, pasture, leaving the land two years in sod and two years cultivated. Our plan is: first year, grain; second year, corn; third year, grain; fourth year, hay. The clover sod and occasionally some alfalfa is plowed in the fall and a crop of grain sown the next year. As soon as this is harvested the land is plowed rather shallow, but thoroughly. A stiff-tined cultivator might

give just as good results, but we prefer the plow if there is enough moisture in the land. It is worked down with the harrows and cultivator as we have opportunity, and plowed again late in the fall. During the winter, whatever manure we have is hauled and spread on as fast as made, and the hoe crop the next year, if well cultivated, gets pretty nearly everything in the shape of weeds, leaving the land clean and in good condition to seed down with clover in a crop of grain, the following year.

One advantage of this rotation is that it keeps the weeds well under control. Canada thistle is the easiest killed by cutting off about the time the clover crop should be cut. The after-harvest cultivation helps to sprout many weed seeds and loosens up quack roots so they may be either frozen out during the winter, or killed the following spring in preparing the land for corn. Other varieties of weeds which come from seed only are killed by the cultivation of the corn.

We used to follow a three-year rotation, viz., corn, grain, clover, but it did not prove as satisfactory as the four-year one. It gave us too much land for hoe crop and we had too much hay and not enough grain. There was also no chance for after-harvest cultivation, which I regard as very important, as all grain sown was seeded down. As we usually feed a number of hogs and give our cattle considerable grain, this plan gives us more grain and sufficient hay and corn land.

Of course, this rotation gets upset occasionally when new seeding kills out, or during a wet season like that of 1916, when only the highest land could be sown to grain, leaving the lower for later crops.

Prince Edward Co., Ont.

MORRIS HUFF.

A Four-Year Rotation.

EDITOR "THE FARMER'S ADVOCATE":

Our farm consists of 224 acres. One side is composed mostly of black clay, and the other side is a sandy loam. We follow a four-year rotation chiefly, except on the clay, where we find a three-year rotation is more satisfactory.

The four-year rotation is as follows: A heavy coating of stable manure on sod, mostly spread in the fall and winter, direct from the stables, plowed as soon as possible in the spring, about six or seven inches deep, and thoroughly cultivated and prepared for a hoe crop. Corn, beans, roots and potatoes are our hoe crops. Then it is plowed as late in the fall as possible so the land stands up loose for the work of the frost in the winter. It is sowed to grain in the spring and seeded down with the following: 8 to 10 lbs. red clover, 4 lbs. alsike, 4 lbs. timothy per acre. The next year we cut hay and a crop of clover seed. The fourth year we pasture and manure again the following winter.

This rotation suits the sandy part of our farm, but on the clay we have found it advisable not to allow it to be pastured very much, as the stock tramp and pack the soil, making it hard to work up again. So we plow the clover stubble and sow to spring grain. After

harvest we cultivate the stubble land, sow rape and fall plow, or we manure and sow to wheat. This rotation of crops works very satisfactorily, except when the sandy loam gets infested with June grass or some other weed we put hoe crops in two years in succession, then seed down. And if the clay land gets dirty or the soil gets run together we summer-fallow and top dress with manure and sow to wheat. We do not fall plow our land too freely, as it gives the natural grass a chance to get turned around and get ready to come up in the spring, especially on the loam. By this rotation we are able to keep from thirty to forty acres freshly seeded and the same for hay.

I am a young farmer and enjoy reading "The Farmer's Advocate" very much. Father has taken your magazine since 1870. We have nearly all the copies and they are very interesting.

Elgin Co., Ont.

S. L. P.

Favors Short Rotation.

EDITOR "THE FARMER'S ADVOCATE":

The best crop rotation is that which will keep the soil up to its present fertility, or possibly improve it by the use of commercial fertilizers and manures.

On our farm part of the land is a sandy loam and the rest a black loam. We find that a four-year short rotation gives the best results. In the first year of this rotation, the land is pastured and in the fall plowed about six inches deep. Throughout the winter manure is applied, and in the following spring the soil is prepared for a hoe crop. After the corn is harvested the ground is plowed and the next spring seeded with clover and timothy, about twelve pounds of a mixture; the nurse crop being oats or barley. If the clover is not pastured in the fall it has a better chance to survive the winter frosts. If the hay crop and after-grass are extra good, it might be advisable to leave for a hay crop the next year.

The second year of this rotation is the time to clean the ground of weeds and of the hoe crops turnips are the best, as the tops smother all weeds in the late summer and fall. In the black loam there are sometimes large numbers of white grubs, larvae of the June beetle and if a long rotation is practiced they have a much better chance to multiply, whereas with the short rotation the grubs are easily destroyed in the late fall when the ground is plowed.

In a long rotation if the ground is pastured for a number of years, the following hoe crop may be somewhat better than with one year's pasture. I have in mind a case where this rotation was followed, and after the hoe crop, as grass seed was high in price, the ground was not seeded for three years. The extra crop of oats had robbed the soil so that when seeded the hay crop was very poor.

A short rotation of farm crops will generally give better satisfaction, as it hastens the destruction of weeds and some insects, which are very detrimental to the growing of good crops.

Grenville Co., Ont.

H. M. LEE.

A Seven-Year Rotation.

EDITOR "THE FARMER'S ADVOCATE":

Rotation of crops means more to the farmer and his land than is generally considered. The soil is benefited by being broken up or cultivated occasionally. Plowing down green crops, or even a good clover sod, adds humus and nitrogen. Different crops vary in their requirements for the several plant foods present, thus eliminating any chance of depleting the soil of any one element, and keeping the supply more normal. Hoed crops give the operator a chance to clear the land from weeds, and insects are destroyed by rotating crops and plowing up old sod. These and many other advantages entirely offset, in my mind, any prejudice formed against the system.

I admit that on a heavily stocked farm there are a few disadvantages to rotation, but, in the light of our present knowledge, they are as nothing compared with the benefit received by its proper application and efficient management.

True it is that fencing a whole farm at the present time is costly, but how long could stock stay on some of our lands and thrive without seriously contaminating the soil and ultimately causing loss to the owner? There may be places where a rotation without at least one year for pasture might prove satisfactory, but in this district where land values are not so high it would be folly to feed stock in sheds during the whole season and then haul manure to the several fields. This would entail an extra amount of labor.

On our farm, which is designed for dairying to be run in conjunction with such side lines as hog raising, and poultry, I find the greatest drawback to a short rotation of crops is the lack of stable manure to enrich, year by year, the field devoted to hoed crops. Considering the present state of our soil and the amount of stock we are able to carry, it would be simply impossible to manure it all every four years. Suffice to say that the few acres occupied by the hogs, year after year, proves what can be done by a short rotation. Here we intend to follow a four-year rotation of hoed crops, mixed feed, clover and pasture, and so far it

has proven satisfactory. By having pasture the two years in succession, the clover being used for pasture, it provides more ground, changing from one field to the other or suiting the field to the requirements of the animal, and when broken up is well manured for the succeeding crop.

By lengthening the system to seven years the impracticability now becomes more feasible, and by spreading the manure on sparingly the ground may be all treated, but I assure you that no manure is wasted. This rotation will be then hoed crops, wheat or barley, oats, clover hay, pasture, oats, clover hay and pasture. This, while giving us more time to manure, also supplies an abundance of feed, both grain and hay, and still leaves us two fields out of seven for pasture, with an additional two after haying.

We hope some time in the future to shorten this scheme, or perhaps devote a part to say a four-year rotation and arrange to have the fields sometimes in one system and sometimes in the other.

P. E. I.

FRED CODY.

Automobiles, Farm Machinery and Farm Motors.

Going on a Tour.

Car owners who use their machines for short business and social trips, never fully realize the possibilities of an automobile until they plan and carry out a more or less extended tour. A big trip can be accomplished with so much ease, economy and pleasure that it seems folly not to indulge in it at least once or twice every season. Some drivers fear to travel over a long route because they have no idea of the many methods now in vogue for overcoming inconveniences. Of course, it is true that the modern car is not equipped with enough storage space, but this cannot be helped, as manufacturers have been giving the public exactly what they called for, and the demand for additional storage room has certainly not been insistent. We feel perfectly safe in stating that sooner or later all touring models will be so altered in body construction that spaces under the seats and back of the tonneau will be so arranged that suitcases, wearing apparel, etc., may be stowed away without detracting from the handsome appearance of the automobile. However, it is not the purpose of this article to delve into the future but rather to show our readers some of the facilities that are at hand for adding to the comfort and pleasure of motorists on tour.

If you are going to make your trip without spending the night in the open, you will not be concerned about canvas supplies, but should you rightly decide that the journey must be an open-air venture throughout, you will find it an easy matter to get a cheap trailer that contains complete camp equipment, including bunks, removable refrigerator, etc. Such an appliance means that you will not have your car littered up with supplies and accessories, but of course, a trailer involves a considerable initial expense and the expenditure may not be to your liking. There is a good substitute, however, which is a tent without poles, and that is easily folded up. Should you desire to minimize your outlay for sleeping arrangements, you can carry a piece of canvas and by stretching it over a pole between two trees, make a roof and wind break, that serves admirable purposes on warm summer nights. Better still, it is possible for you to purchase a shelter top, attachable to the top of your car. It covers up a bunk, suitable for two sleepers. Special spring mattresses are also available for little money.

As the space in an auto is limited, you must count upon carrying articles that will either fold or collapse. Do not figure upon packing tinware and granite-ware, as this is cumbersome stuff that has a tendency to scratch and soil everything in contact. There is an excellent accessory called, a collapsible restaurant, that contains a folded table and complete supplies for seven people; such articles as plates, cups, napkins and cutlery,

food boxes and bottles are all arranged to advantage, and in the smallest possible space. A great many tourists simply carry a stove cover to supply cooking arrangements. This is laid on a bank of earth with rocks, but should you have expensive ideas, it will not be a difficult matter to buy a folding camp stove that takes up a minimum space and provides maximum capacity. A short axe and a short shovel, camping types, will not only prove their worth when you begin to camp for the evening, but should the car slip into mudholes or become bogged, they will always be at hand for emergency cases. Some provinces are restricting, and others are prohibiting, the use of search lights attached to the side of the windshield, but we do not think there is any law against carrying a search light in your tool box for use at nights if the evening appears to be overcast and cloudy. Such a light thrown upon your table or used in the collection of fire wood, proves an invaluable convenience. We have not previously stated anything about suitcase holders, for practically every automobilist knows the different styles available for attachment to the rear of the frame, to the running boards and to the back of the seat. There are at least one hundred different models, all of which contain good points of more or less merit.

In providing against accidents, you should not forget a tow line of rope or steel. These are now provided in types that can be stowed away in small space and with very little trouble. There are also different brands of pulleys that are highly recommended, in cases where increased pulling power is demanded. A great deal of advice upon their use and upon the employment of other means, suitable for the overcoming of difficulties, might be given, but as we do not advise amateurs to go upon long trips, we feel safe in assuming that experienced drivers can always bring enough knowledge to bear upon any situation to get themselves out of trouble with the least expenditure of time.

We are not going to encourage extravagance, because when you take to the open air you do not expect the luxury of a big hotel, in fact, the ecstasy of any vacation comes from the consciousness that life is to be free and easy. For your information, however, we may state that big department stores sell sets of cutlery, specially adapted to long tours, they also have linen outfits for the same purpose, and we think automobile accessory houses manufacture tonneau shields to be used for extended touring, besides, providing expensive interior lighting equipment and bedding outfits to be used where motorists do not carry tents and must, under certain weather conditions, remain along the roadside and away from hotels. Speaking generally, we would not advise you to load up unnecessarily if you are travelling in a country that is well populated,

as you can always procure any little article the occasion may call for. It is far better to do this than to be constantly giving up room to baggage that may or may not give you daily comforts.

AUTO.

The Gasoline Engine on the Farm.

EDITOR "THE FARMER'S ADVOCATE":

I would like to give my experience with gasoline engines as adapted to farm work. I have used a 3-H.P. gasoline engine for nearly three years and have found it a very efficient farm helper. I have used it to operate a cutting box with 12-inch throat without carriers, and have found this outfit very efficient for cutting corn stalks and straw for feed. I also used it to operate a 6-inch plate grinder and a 26-inch wood saw for cutting poles and cordwood, and it gives the best of satisfaction. For running the grinder I found I had not enough speed by using the pulley furnished with the engine. To overcome this and save the cost of a larger pulley I put the belt on one of the fly-wheels, and this gave me good speed and does not seem to hurt the engine in any way. Now I have found from experience that the simpler the engine is the better for the operator, and there is less chance of the operator using strong language when he has to do any repairing. The engine I use is of the suction feed type, supply tank being in base of engine. I have found this a very reliable type of feed, as there are no pipes to leak and be in the way when you have to make repairs. The carburetor should be of simple design and easily understood, and without superfluous parts to confuse the beginner. The governor should also be of simple design, and preferably of the fly-ball type mounted on fly-wheel. My engine is of the hit-and-miss type, but the throttling governor will be found more suitable for some work, such as running a cream separator, as it gives steadier power when working under light load, because there is always a charge exploding in cylinder. The only difference is that there is a small charge used when the engine is running under light load. In buying an engine care should be taken to select a reliable ignition service. Jump spark or high-tension magneto is the best. Personally I would advise anyone who is buying an engine to select a magneto type. But batteries are all right, only they have to be renewed every 8 or 9 months, and give some trouble sometimes with connections working loose. Make and break ignition is all right, but there are a lot of springs to keep in repair. On the whole I think the simple spark plug is the best. It is so easily got at to be cleaned, and this needs to be done often.

Halton Co., Ontario.

A FARMER.

THE DAIRY.

About Cows.

A woman sat in a crowded railway coach beside a man. They were strangers. They represented different types and different occupations. She was a farmer's wife—one of the bright though patient and hardworking farm women who have meant so much to this country. He was of the city—one of the few who know most everything. They chatted freely about things in general and finally they came down to cows and chickens. The woman had milked cows and fed chickens all her life and knew something of the practical end of it. The man had eaten cold-storage eggs and drunk chalk-colored milk for many decades and was well posted in theory.

And so the pleasant chat proceeded with changing subjects until it settled on a grade Shorthorn cow in the woman's herd and which the woman thought a pretty fair milker. This cow made ten pounds of butter per week and threw good calves which they sold for beef. Her friend from the city scoffed. Such a cow was a joke. Why down in the county where he came from they wouldn't keep a cow like that at all. Cows down there made 25 to 30 pounds of butter a week, and as for the calves they didn't keep them. It didn't pay to raise them. "My good woman," he said, "haven't you yet

awakened to the fact that there is loads of money in dairy cows?"

The woman said "I suppose there is, but I notice some people who are not over anxious to go into keeping cows. It looks fine on paper; it is much more easily figured up than made. Why don't you try it?"

Then her gentleman friend changed the subject and began to talk about the city, wages, Easter holidays, rents, etc.

Holstein Records for Seven-Day and Yearly Tests.

From March 1 to 31 there were 73 Holstein cows and heifers accepted for entry in the Record of Merit. Six of the records exceed the 30 pounds of butter in seven days. Keyes Walker Segis leads in the mature class with 34.65 lbs. of butter from 608.8 lbs. of milk. Pietertje Pauline Hengerveld is second with a record of 32.71 lbs. of butter from 552.3 lbs. of milk. The senior four-year-old class is led by Mildred Pietertje Abbecker with a record of 32.63 lbs. of butter and 856.9 lbs. of milk. This cow gave as high as 125.5 lbs. of milk in one day. Pietje Inka Pietertje, as a junior four-year-old, produced 30.77 lbs. of butter and 696.1 lbs. of milk in seven days. On her best day she reached 102.5 lbs. of milk. Calamity Snow Mechthilde 2nd leads in the senior three-year-old class with 26.30 lbs. of butter to her credit, and Daisy Wayne A Mechthilde, a stablemate, heads the junior three-year-old class. Alta Posch

Segis has 23.72 lbs. of butter and 580.5 lbs. of milk to her credit as a senior two-year-old.

During the months of February and March there were only eighteen Holstein cows and heifers admitted to the Record of Performance. In the mature class Grace Mantel produced 23,009 lbs. of milk and 738 lbs. of fat in the year. Johanna Netherland De Kol 2nd. was the only four-year-old to qualify with a record of 11,211 lbs. of milk and 383 lbs. of fat. There were seven in the three-year-old class. Korndyke Wayne Daisy produced 13,673 lbs. of milk and 512 lbs. of fat, while her stablemate, Lucy Posch, produced 12,921 lbs. of milk and 502 lbs. of fat. Princess Wayne Clothilde as a two-year-old made a record of 11,185 lbs. of milk and 461 lbs. of fat.

Seventy-Four Holsteins Average Over \$181 at the Wookstock Sale.

In the report of the Oxford Breeders' Consignment Sale of Holsteins recently held at Woodstock, a mistake was inadvertently made in figuring up the total sale price, consequently, it threw the average too low. The sale totaled \$13,395 which makes an average of \$181.01 for the seventy-four animals sold. There was only one animal which did not come up to one hundred dollars. The ruling price at which females were sold was near the two-hundred dollar mark, which is considered a high average for such a large offering. It speaks well for the quality of stock offered and satisfaction given by the consignors of this semi-annual sale.

The Efficiency of the Dairy Cow.

It is rather significant that farms in districts where dairying is specialized in command a higher price than equally good land in districts devoted to cattle raising or mixed farming. The sign of prosperity is also noted in dairy districts by the substantial farm buildings. This may be due to the fact that in order to secure the best results the dairy cow must be kept comfortable during the cold weather. Young stock or fattening steers make reasonable gains in open sheds which afford protection from the elements. Not so with the milk cow. Exposure to unfavorable conditions is immediately noticed by a falling off in the milk flow. True, some cows give such a small flow that it is little affected by changing temperature. However, the cow that pays her way must be properly looked after. She requires more attention than the fattening steer, and this is probably the reason she is discredited by some people who do not care for regular work every day of the week and practically every week in the year.

Money has been made, and run-down farms built up by dairying. There is no animal on the farm that will produce as much human food from a given amount of feed as the cow. She is an efficient machine for converting the rough feed such as hay, straw, silage, roots, corn stalks, grass, etc., and the by-products of grist mills into a valuable product for sustaining the human race. Milk is a necessary article of diet and will always be in demand. The products of milk, as cheese and butter, will ever find ready sale, consequently the man who is in the dairy business is always assured of a market for his products whether it be whole milk, cream or butter, and in selling cream or butter off the farm a comparatively small amount of fertility is removed. Dairy farming furnishes employment the year round, and there is revenue coming in at least once a month. This has a decided advantage over the mode of farming where sales are practically all made at one season. The business can also be carried on in districts remote from the centres of population as the milk and fat can be condensed into small bulk as cheese and butter, which has high value according to the weight and can readily be shipped. The by-products, as skim-milk, buttermilk and whey also have a recognized value for raising live stock. A ton of butter or cheese has many times the value of a ton of wheat or hay, and is worth considerably more than a ton of live stock. The acknowledged advantage of dairying is partially nullified by the strenuous and regular work entailed. The man who succeeds in any line must be on the job most of the time, and when the returns are remunerative he does not object. Those who are tied to the cow's tail, as some people are wont to express it, do not find their work so arduous, as the uninitiated to the working of the dairy business would imagine. One does not have to wait the entire year for returns from the crop, as the morning feed will be turned into milk or a cash product by night. Once a cow reaches the producing age she pays as she goes.

It costs practically the same to grow a heifer and steer up to about 1,000 pounds. They require the same kind of attention, shelter and feed. When that weight is reached, and often before, the steer is forced for the block, and the heifer drops a calf and is prepared to not only feed her offspring but to serve as the foster mother of the human race. From this time on the requirements of the two animals are different. While both will require the same amount of the same nutrients to maintain the body, the steer requires little surplus protein, while the cow uses a large amount in the manufacture of milk. On the other hand, the steer can utilize to advantage feeds richer in carbohydrates than are required by the cow. If given a liberal quantity of silage or roots and all the legume hay she will consume, a cow will maintain herself and yield a fair quantity of milk and butter-fat. Most cows will pay for a certain amount of concentrates, in fact some grain or millfeed is essential for economical production, but the average cow in milk is not fed any heavier on grain than the bullock that is being fitted for the block. It is difficult to make comparison in returns from feed consumed, owing to various circumstances which enter in. The whole beef carcass is increased in value by the extra finish. The average cow is given access to no more pasture than the steer to be finished on grass. However, she will produce about 3,500 pounds of milk from the time she goes to pasture until September, and a steer will gain about 250 pounds. At prevailing prices for meat and milk, cows would return higher rental for their pasture than would steers. Considerable investigation work has been carried on in the United States, relative to the economical use of feed consumed by different classes of animals. The following table given in "Dairy Farming," by Eckles and Warren, shows the proportion of feed eaten by live stock that is returned for human use.

	Per Cent. of Protein Returned		Per Cent. of Energy Returned.		
	Of total food.	Of digestible protein.	Of total food.	Of digestible food.	Of production value of food.
Cow	11.7	41.0	10.0	15.1	48.9
Goat		31.4			40.6
Dairy heifer		22.9		6.9	33.8
Steer	6.4	8.9	4.7	7.5	17.0
Heifer	16.1	14.8	7.1	8.3	14.8
Pig	14.5	20.9	6.4	7.5	14.1
Hog	10.2	18.6	6.4	7.5	12.6
		13.2	15.1	17.5	29.9

In the case of the dairy herd mentioned in the above table the feed eaten by 5,191 cows, 1,078 heifers, 874 calves, and 158 bulls was taken into consideration. The actual returns in milk were 24,646,000 lbs. and 260 lbs. of butter; 100,000 lbs. of skim-milk were included and a large number of cows, heifers and calves which were marketed for beef were considered in the net returns. The first cow mentioned in the table returned such a high percentage of the digestible protein, was one weighing around 1,000 lbs. that yielded 6,000 lbs. of four per cent. milk. The returns were based on Armsby's feeding standard. The second cow was raised to two years on the above-mentioned standard, milked five years, then sold as lean beef and the returns figured accordingly. The first steer was grown to 1,000 lbs. in two years, then fattened 200 lbs. in 100 days when the meat was counted as fat beef. The returns from the hen was the average of 1,803 birds. When the flock was taken into consideration there were the number of hens previously mentioned, sixty roosters kept one year, and 2,713 chickens raised. The net products were 204,093 eggs above those used for incubation; 1,080 fowl and 1,401 cockerels and pullets sold for meat. Thus it will be seen that in the case of the dairy herd and the flock in particular the percentage of the total food consumed that was returned for human use is the average result of a large number of cows and hens. The table clearly shows the efficiency of the cow to transform farm crops into material to sustain the human race. The average of a large number of cows in one district shows double the efficiency of the steer, as a producer of human food, and is considerably higher than the hog.

When the price of the marketable product is considered it is found that it varies with all classes of stock, according to the supply and demand. It does not often happen that dairy products will be high when beef and pork are low in price, as the supply of the various products mentioned is to a large degree dependent on the available raw material consumed by farm animals, and converted into edible products.

The agriculturist should consider the maintenance of soil fertility. Many farms of to-day will not produce crops which compare in yield with those of a few years ago on account of the plant food in the soil being actually shipped away in bales and bags. Every time a bushel of wheat or a ton of hay is sold a large amount of fertility is removed off the farm, and unless it is returned in some way the crop yield must neces-

siderably over fifty per cent. of the ash. Some investigators put the percentage of constituents of food that are returned in the excrement considerably higher than this. A farrow cow or one that is only giving a small quantity of milk will return a considerably higher percentage than the cow milking heavily, and the mature animal will return a larger proportion than the growing animal. The figures given apply to fresh manure. The amount actually returned to the soil is not so large if the manure is left to leach for months in the barnyard.

By analysis the fertilizing constituents contained in the feed consumed by the stock can be estimated. What is found in the cereals in the form of nitrogen potash and phosphoric acid must necessarily come from the soil, thus leaving it so much poorer. With the legumes a portion of the nitrogen is absorbed from the atmosphere, and consequently does not affect the soil fertility to the same extent as do the cereals. Legumes make valuable roughage feed for dairy cows. A few of the feeds commonly used in compiling a ration for dairy cows is given in the following table, together with the number of pounds of fertilizing constituents contained in a ton of each:

Feeds.	Nitrogen lbs.	Phosphoric acid lbs.	Potash lbs.
Wheat	51.2	5.90	32.4
Oats	39.6	16.2	11.2
Corn	32.4	13.8	8.0
Cottonseed Meal	120.4	53.2	36.0
Linseed Meal	118.0	35.4	26.0
Clover Hay	41.0	7.8	32.6
Mangels	4.4	.8	4.4
Silage	6.8	3.2	8.8
Clover Pasture	13.2	2.6	11.2

The above will serve to show the extent of the removal of soil fertility when the crops mentioned are sold off the farm in the raw state. The milk cow retains some of the material to maintain her system, uses some in the manufacture of milk and returns the remainder, which amounts to practically fifty per cent., back to the land on which it grew, providing only home-grown feeds are used. The farm is further enriched when concentrates such as cottonseed meal or linseed are purchased and fed. Dairy men buy and feed a good deal of rich concentrates, which not only aid in increasing the milk flow but indirectly enrich the farm and



Cornelia Aaggie Pontiac 41107

At nine months, winner of first prizes at all the large Western Fairs in 1916.

sarily continue to decrease. When the products of the field are consumed by live stock and especially the dairy cow, a considerable percentage of the fertility that is taken out of the soil by the crop is again returned to it. It is estimated that each cow will produce a ton of excrement per month. "Wolff," who has conducted a good deal of experimental work, estimates that the dairy cow returns somewhat over forty per cent. of the organic matter and nitrogen of the food eaten, and con-

clusively why dairying tends to keep up the farm. Taking the analysis of the products and figuring nitrogen at 12 cents a pound, phosphoric acid and potash at 4½ cents per pound, the following gives the fertilizing value of these three products what are essential to plant growth:

Products.	Estimated cash value.	Manurial value.
1 ton mixed hay	\$ 12.00	\$5.80
1 ton wheat at \$1.80 per bushel	59.99	6.65
1 ton of live cattle at 10 cents per lb.	200.00	7.68
1 ton whole milk at \$2 per cwt.	40.00	1.60
1 ton of butter at 40 cents per pound	800.00	.36

There is very little nitrogen phosphoric acid or potash taken off the farm when butter is sold. The by-products, as skim-milk and buttermilk, are consumed on the farm, and are a valuable addition to the

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ration of all young stock. Even when whole milk is sold very little plant food goes with it. This accounts for the high percentage of the fertilizing value of crops being returned in the excrement of cows. Other substances in the plants of which the soil does not become so readily depleted enter into the composition of dairy products. The three mentioned are those which some farmers pay big prices for in order to keep their land to the maximum producing stage. Of course, when a cow is sold comparatively the same manurial value is removed as in the case of fat cattle, but the point is that the dairy cow continues year after year converting farm crops into a high-priced article which does not exhaust the soil of its fertility when it is marketed. This explains very largely how men have been able to improve their farms through the medium of the dairy cow.

Apart from the cow being able to economically produce a marketable product from the rough farm crops as well as the concentrates, the by-products of cheese factory, creamery and home dairy must be taken into consideration when comparing the efficiency of the various farm animals as producers of human food. Whole milk is essential to give calves of all breeds of cattle a start, but after a few weeks the fat of milk may be sold and the calf will thrive on the by-product plus a little hay and grain. Without milk calf rearing is a difficult problem. After pigs are weaned they will get a better start and make more rapid gains if skim-milk is available than if a substitute must be resorted to. More of the essentials to animal growth that are found in milk are removed in the manufacture of cheese than in the making of butter, consequently whey or the by-product of cheese factories is not so valuable as skim-milk. Nevertheless it has a recognized value as a hog feed, and to a limited extent is used as a calf feed. Without the by-products of the dairy the hog industry would suffer.

Although the cow is the most efficient of farm animals for converting farm crops into food for the human race, it would be folly for everyone to rush into dairying. While milk is one of the cheapest articles of diet, considering the energy it furnishes, a varied diet is necessary to the welfare of the human race. Meats are a form of food few would care to be without or could very well do without indefinitely. The cow of average production may not give very high cash profits when all expenses are considered, but there is no logical reason why the average should be so low. The maintenance cost is as high for a low producer as for a heavy milker. The aim should be to breed and feed so that the milk flow of the herd will be double that of the average for the Province. It can be done. It is even possible to treble the yield by selection of breeding stock. The higher the milk production per cow, other things being equal, the greater the profit.

POULTRY.

Produce Pullets.

EDITOR "THE FARMER'S ADVOCATE":

I noticed an article in your paper a few weeks ago regarding cotton fronts in poultry houses. There is probably no other business where theories are manufactured and exploded so easily as in the poultry business. I have visited poultry houses with all cotton fronts where the hens were not laying, and have found in a house that I considered stuffy the hens fairly shelling out the eggs, the secret was that in the one case the hens were in a laying condition and in the other case they were not. My own opinion is, however, gained from my own experience and observations made from other poultry houses in the vicinity, that a glass front house with proper ventilation will give better results than a house all cotton front. I notice that in the article I have reference to the writer mentioned getting a number of eggs that I would not have considered laying at all. As he lives in a very cold part of the country I am positive he would have had far better results by having a warmer house, as he even mentioned that some of the birds were frosted. I have had a pen of White Wyandotte pullets numbering 80 in a house 12 feet by 24 feet with two large glass windows facing south. Those windows are hinged at the bottom and let down from the inside. There are hooks on the top and each day throughout the winter (unless it is very windy) they are opened. At night, however, they were always closed. The pullets started laying in November, and throughout January and February laid from 40 to 52 eggs every day. Now I know some poultrymen would say this house was not properly ventilated, but as long as I can get a 50 per cent. egg yield from a flock numbering 80 in the winter months I am satisfied.

I often hear farmers wondering why their hens don't lay, as they are feeding nearly everything in the line of egg-producing foods. Winter feeding is very important, but how you raise your chicks is far more important. The early-hatched, properly-raised chicken makes the winter layer.

Another popular theory among the college experts is that the yearling hens should be the only ones to breed from. Again I disagree. I have always raised chickens from well-developed pullets with the best of results. Take as an illustration the wild birds. Does Mother Nature allow the older birds only to do the hatching? I think not. And do we notice much difference in the quality of the wild birds reared from both old and young as they must be? We are told to produce as much as possible this coming season, and regarding the egg question we must raise many pullets and keep fewer hens throughout the winter to increase the egg

production. Perhaps it might be interesting to many who wonder if there really is any profit in keeping hens in these days of high feed prices to know that in January and February I sold \$153.64 worth of eggs, besides what we used. Putting the feed at \$1.25 per day this leaves a profit of over \$80.00. I might say this was from nearly 160 hens and pullets. The hens were kept separate but even with the best of attention they did not lay half as well as the pullets. So let our slogan for this year be "Produce Pullets".

Wentworth Co., Ont.

J. J. BERTRAM.

Feeding and Caring for a Flock of Ducks.

Comparatively few ducks are reared on the farm, and yet they can be successfully raised under very much the same conditions as hens and chickens. Many who have kept ducks in the past but have since gotten rid of them claim that they eat their heads off. The duck rearing business at the present time is very largely in the hands of specialists. However, there is no reason why a few ducks could not be profitably raised on the average farm. They can be kept in moderate sized flocks and they will roam over a portion of the farm in search of food, which will consist to a large extent of green feed, worms and insects. If allowed their entire freedom they become as destructive of farm crops, as chickens, possibly a little more so. If a stream runs across the place they will spend most of their time hunting for food in its vicinity. Ducks, with the exception of the Indian Runner, do not compete successfully with hens in egg production, although some poultrymen claim that ducks, even from the egg standpoint, are more profitable than hens. They are comparatively free from disease and are seldom troubled with vermin. The young ducks grow much more rapidly than chickens, and it is not uncommon to have them weigh from four to five pounds when nine or ten weeks old. It will take pretty good feeding to have a chicken weigh half as much at the same age.

Ducks do not require a substantial house, as long as it is dry they get along fairly well. The breeding stock should be properly fed, and it is customary to give them considerably more space per bird than is given the hen. A little straw should be scattered over the floor and it will be necessary to clean it out frequently. The ducks lay during the night or in the early morning and should be shut in until they have laid, or until about nine o'clock. In the early part of the season it is necessary to gather the eggs as soon after they are laid as possible in order to prevent them from becoming chilled. If the ducks are allowed their freedom during the laying season a good many eggs are lost, as a duck is apparently not particular about laying in a prepared nest. The mature birds need not be fed too heavily on grain. They require a varied ration in order to obtain the best results. A mixture of cornmeal, bran, shorts, beef scraps, green feed and oyster shell, moistened with skim-milk or water, makes a very good ration and is preferred to feeding whole grain. The duck does not possess a distinct crop like the hen, therefore the feed passes more directly to the digestive organs and does not undergo the same softening process as that consumed by the hen. For this reason the best results are secured through feeding a mash. Oyster shell is necessary for the manufacture of egg shell.

As a rule the heavier breeds of ducks are good sitters and may be used for incubating their eggs. However, hens or artificial incubators are more generally resorted to. When the eggs are set under a hen or in the incubator it is advisable to moisten them occasionally with lukewarm water. When the eggs hatch the ducks should not be fed for about thirty-six hours. Their first feed may consist of a mixture of bread crumbs, cornmeal and bran, slightly moistened with milk, to which is added a little grit. After a few days the bread may be dropped from the ration and equal parts bran, shorts and cornmeal fed. If skim-milk is not available it is necessary to add ten or fifteen per cent. of beef-scrap or other animal food. Ducks need water when they are feeding but it is not necessary that they have sufficient to swim in. They also require green feed in some form. Poultrymen who make a success of raising ducks have derived valuable lessons in feeding, from watching the ducklings when on free range. They observed that a considerable quantity of growing shoots and roots of water plants, snails, small fish, and the larvae of aquatic insects are consumed. From this it is learned that it is necessary to give soft feed. In order to secure economic gains, grain must be included in the ration but it should be ground and moistened instead of being fed whole. Cleanliness is important, but it is difficult to keep the pens clean when the birds are in confinement. Where possible the young ducks should be furnished with fresh grass runs occasionally. A shallow trough is a good thing in which to feed the mash. It can easily be cleaned out and washed when necessary. Clean water is also essential to successful duck raising when the birds are confined in small runs or pens. Where a stream of running water is available there is considerably less trouble in rearing ducks, but, lacking such, pure water can be supplied in troughs. When the ducks are yarded it is necessary to feed green and animal food. The ration should consist of about fifteen per cent. of animal meal. Green feed can be supplied by cutting rye, clover, alfalfa, peas, corn, etc. They will eat any of these feeds readily when grass is not available. These may be fed separate from the mash. It is advisable to furnish shade for the growing ducks. If they are exposed to the hot rays of the sun they are liable to be overcome with the heat.

Ducks grow rapidly and when near marketable

weight, which should be at eight to ten weeks, the quantity of corn in the ration should be considerably increased. It is generally claimed that there is more money in disposing of the ducks at the age mentioned than keeping them until fall or early winter. Using a mash instead of whole grain for feeding ducks, marketing them at eight or ten weeks and keeping them away from the well and doorsteps would no doubt overcome much of the oldtime prejudice against keeping ducks.

Egg-Laying Contest.

At the end of the twenty-first week of the sixth year of the Philadelphia North-American Egg-Laying Competition, the 505 birds entered have laid 24,919 eggs in the twenty-one weeks, which include the winter months when it is most difficult to secure eggs. In the week beginning March 21, a total of 2,025 eggs were produced. A number of birds laid every day in the week, but thirty-one eggs was the highest reached by any pen of five. This was by a pen of Columbian Rocks. Thirty eggs were laid in the seven days by five White Faverolles, which have laid a total of 311 eggs in the twenty-one weeks. Tom Barron's White Wyandottes are in the lead to date with 463 eggs to their credit. A pen of Columbian Rocks entered by J. M. Jones is a good second, having produced 422 eggs. A number of pens of the different breeds have reached the 400-egg mark, but a large percentage run between 250 and 350 eggs.

HORTICULTURE.

A Few Hints Re the Potato Crop.

A good crop of cereals, corn and potatoes will go a long way in making things look brighter for the city folk who are beginning to worry about their next winter's food supply, but as yet no one knows what the yield will be. We can judge fairly accurately as to the acreage that may be seeded or planted, yet the ultimate results are hidden from us. However, this we can do, (health, climate and labor permitting) towards greater production: We can put the land in good till; we can select and treat the seed properly; we can cultivate thoroughly while the crop is growing, and in many cases spray or do other things to ward off diseases or insects; we can harvest it as carefully as the weather conditions will permit, with the help at our disposal; we can store it in such a way as to preclude all unnecessary waste, and then we can prepare it for distribution in a suitable and useful package. This is the duty of the producer, but distributors, transportation companies and consumers, who are all interested in Canada's production of staple food articles, also have a duty in this regard. They know what it is well enough, and here we shall only pretend to outline a few points in connection with the preparation for a good crop of potatoes. It is quite within the range of possibility to increase the yield of potatoes fifty bushels over and above the ordinary hit-and-miss crop by perseverance and good cultural methods, or it would be quite as easy to fall fifty bushels per acre below the ordinary yield through negligence or indifference to the cardinal points in the management of the potato field. Ontario and the Maritime Provinces have methods which differ somewhat in minor features yet, in the main, growers must pay the same attention to seed selection, soil preparation, cultivation, spraying and marketing.

Selection and Preparation of Seed.

It has been a long time since the seed-potato problem was so critical, and while, in normal years, only the large-sized, smooth tubers should be planted, we must modify our plans and adjust our practice to suit the conditions that are pressing us on every hand. A tuber which weighs six to eight ounces, is smooth, free from disease, typical of the variety and desirable as to quality in every respect, is just the specimen to select when cutting sets, but a bag of such as these would be worth anywhere between three and four dollars. Thus the seed for one acre alone would represent between \$30 and \$40, and it is reasonable to expect that growers will think long and hard over this very question. They may have some medium-sized or small ones on hand, but with them the sort they would prefer to use might be scarce. What should they do? In arriving at any conclusion in this matter, especially in regard to Ontario stocks, it would be well to bear in mind that last season was not favorable to the production of large-sized tubers, and if the general run of the crop is small it is, to some extent, due to climatic conditions, and not wholly on account of an inherent tendency in the stock itself to retrograde or to be "run out," as the common saying is. While we are still extremely orthodox in respect to our doctrine that only the best tubers should be used in planting, we feel obliged to make some concessions at this time relative to size and weight. In sections which are especially adapted to the production of potatoes we feel sure that they should select this season the very best potatoes they have as seed, for anything which grew to proper proportions last year under unfavorable conditions should be superior in vitality and resistant qualities, and it affords an admirable opportunity to develop a strain that will throw good progeny under favorable conditions and do well when soil and climate are not so clement. We look to these districts for seed, such as Caradoc Township in Ontario, and this is their opportunity to spring to the fore in the selection and development of a class of potatoes that has stood the stress of a late spring and a dry

summer. Other potato-growing sections are in the same category, where they look on their crop as superior to the general run and cater to a discriminating market and a seed demand. The Maritime Provinces occupy much the same position. The crop there was very good last season, but in New Brunswick considerable loss did result from blight. The growers cannot be too careful when picking over their seed stock to reject any tubers showing signs of disease, for the planting of affected sets is a potent means of propagating blight and inoculating the crop of 1917.

While the biggest and best tubers surely have the inherent qualities of resisting disease and throwing stock like unto themselves, the smaller ones are not so much to be despised as in former years, when undersized potatoes were the result of no selection and degeneration. However, if a grower should resort to a second-class tuber in this emergency he should use enough good ones in some part of the field, keeping them separate, to provide his seed for the spring of 1918. This is only a war-time measure and not to be indulged in to the extent of adopting it as a practice, nor should it be tolerated in normal times.

The growers of early potatoes usually look to some locality north of them for their stock of seed. Many of the Sarnia District producers have had good results with potatoes brought in from the State of Wisconsin in that, when introduced to a warmer climate, the crop matured earlier and the yield is superior to that from native seed. The same results accrue from stock produced in the more northerly areas of Ontario. This is an established practice now, and one to which early potato growers should pay attention. At a recent vegetable growers' conference in Toronto the delegates agreed that the use of northern-grown seed gave an increase in yield amounting to 25 per cent. and from 7 to 10 days advantage in date of maturity.

Where the soil is moderately fertile two plants to the hill usually give the maximum yield, but if there is a dearth of plant food or a scarcity of decomposing vegetable matter in the soil one plant to the hill will, generally speaking, give the largest quantity of marketable tubers. These conditions determine for us whether we should leave one or two eyes to the set. Again, the value of seed potatoes this spring is likely to make the one-eye set popular, but growers should not go to extremes in respect to small tubers and small sets.

There is also the question of scabby and blighted potatoes. The latter should not be planted as seed, and the former should be treated in a solution of corrosive sublimate or formalin. The formalin solution is the safer to have around the place. One pint to thirty gallons of water is the strength commonly used, and the tubers are immersed for two hours after which they are turned out and dried preparatory to cutting. The sets should not be treated as the solution is likely to weaken germination by coming into contact with the cut surface. It is an alkaline rather than an acid soil which induces scab. Ashes or other ingredients rich in lime will encourage it, while acid phosphate and such, which tend to make a sour soil, are detrimental to the development of scab.

Varieties.

There are too many varieties for the good of the potato business. Perhaps there are not too many if we look at it one way, but they are too widely scattered. Districts should become known for one variety and should equip themselves, through co-operative effort, to load carload after carload with potatoes alike in color, shape and size, where possible. The variety might be Carman, Green Mountain, Empire State, Dooley, Delaware, Rural New York or Davies' Warrior in the medium to late kinds, and the Early Ohio, Early Eureka or Irish Cobbler for early. The market desires a tuber that will weigh around eight ounces, they must be smooth, have shallow eyes, and they should be dry and mealy when cooked. Some of these characteristics and qualities are influenced by the soil on which the crop is produced and the climatic conditions prevailing throughout the growing season. However, some varieties naturally grow rough and have deep eyes, while others will, if given a fair chance, be smooth in their outline and of good texture. The Carman, Delaware, Green Mountain and Dooley are the popular ones in Ontario. Green Mountain and Empire State are quite commonly grown in New Brunswick and Nova Scotia, while Prince Edward Island growers go in more largely for blue and red kinds to supply their markets.

Preparing the Soil and Planting.

The early potato is handled a little differently from the late crop stock. Perhaps a brief description of early potato culture, in the Sarnia District of Ontario, will suffice in this regard, for in localities where early potatoes do the best conditions of soil and climate are often quite similar.

In the first place, northern-grown seed is desired. This is obtained from the State of Wisconsin through a Chicago seed house, and the growers are willing to pay extra, if needs be, for seed of this nature, for the change

about another week the weeder is put on. By this time the plants are showing through the ground and the two-horse cultivator is brought into service. In another week the weeder is again used. Cultivating and weeding go on till the plants are about 8 inches high. This eliminates hoeing. The last cultivation hills the potatoes slightly. Throughout an effort is made to work the land as shallow as possible, for it has been found that the shallower the crop is grown without being sun-burned the better will be the yield.

Late-crop growers are usually mixed farmers, and they should plan a rotation so potatoes can benefit from a plowed-down clover sod. Throughout the Maritime Provinces this has always been a weak feature of their methods respecting potato growing. Through continuous cropping without clover, or allowing the fields to remain too long in grass when once seeded, they have depleted their land of humus and have been obliged to use large quantities of commercial fertilizer, thus reducing the net profit. While we believe they can still use as much or more commercial fertilizer to advantage on a cash crop such as potatoes, it has been conclusively proven that they have not made as much use of clover as they should to supply the humus which this crop desires. There must be decomposing vegetable matter (manure or sod) in the soil for the sake of the crop itself and to obtain the maximum results from the fertilizer applied. In certain parts of New Brunswick potato growing has sprung into prominence during recent years, just because farmers discovered that they could build up even a run-down farm without manure if they adopted a three-year rotation and planted on sod, using a liberal amount of commercial fertilizer.

It is not uncommon in some parts of Ontario to sow fall wheat on sod, and after the wheat crop is removed to cultivate and clean the field for potatoes the next year. The claim of such growers is that the fall cultivation so cleans the land that hoeing is less onerous and the decaying sod makes the ground very mellow. Perhaps Caradoc Township, Ontario, is the best example of a district where this method is followed to any great extent.

Potatoes may be plowed down with the sod or on cultivated land, but the best results are to be expected where the land is either fall or spring plowed and the surface thoroughly cultivated to put the soil in good tilth. Planting should either be done with a mechanical planter, a small plow, or with a horse-hoe, as is commonly used in the Eastern Provinces. Any of these ways is all right, provided the sets are planted deep enough and in straight rows to facilitate cultivation.

With labor so scarce it will be necessary to make very liberal use of horse implements this year. If the weeds come on vigorously the drills can be levelled down and again ridged up, to be levelled a second time with the weeder or small harrows. The weeder is a useful implement in the potato field, and growers of the Maritime Provinces do considerable towards the extermination of weeds with the horse-hoe and weeder, or very light harrows. The cultivator, of course, should be kept running as long as the size of the plants permits, for the potato crop requires a large amount of moisture during the growing season, and especially when the tubers are setting, so weeds should not be allowed to prosper nor the moisture to evaporate through a baked and hard surface.

FARM BULLETIN.

War Mongers.

EDITOR "THE FARMER'S ADVOCATE":

Many readers of the Advocate will recall a poem of Robert Southey's, entitled "After Blenheim", which appears in the *Third Reader*, as used in Ontario public schools thirty years ago. They will recall how the two children find a human skull and take it to their grandfather, who, in reminiscent mood, tells them of the "famous victory" of Blenheim.

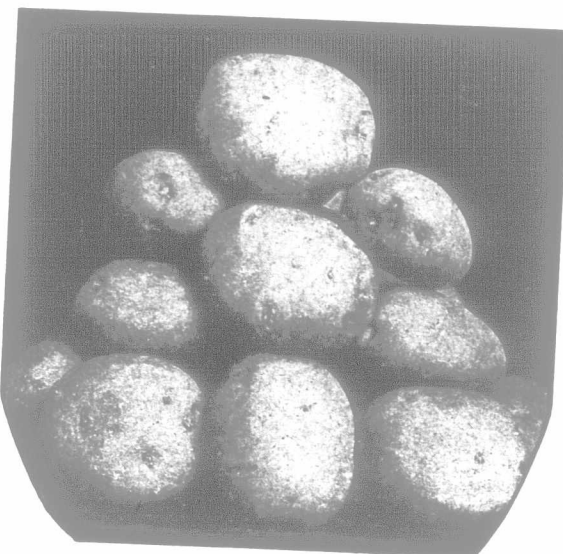
"But what they fought each other for
I could not well make out;
But everybody said," quoth he,
"That 'twas a famous victory."

Rivers of blood are now flowing in Europe, and in future the plowshare will turn out many ghastly



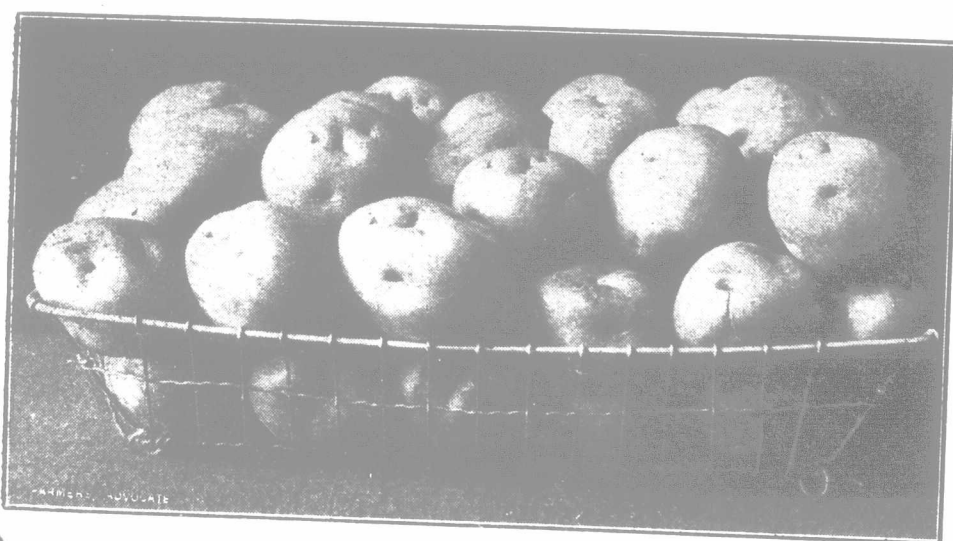
Scabby Potatoes Unfit for Seed.

to a warmer climate induces a greater yield and earlier maturity. Irish Cobblers and Ohio Juniors are the varieties used. The former is a white potato and the latter red. Some markets, such as Ontario urban centers, desire whites; lake towns will take reds and they frequently yield better than whites. Two eyes are usually left on each set. Two plants to the hill are desired, but no more, as this number has been found to give the maximum yield of marketable tubers. In preparing the soil, 12 tons of manure per acre are applied and plowed down not more than 5 to 6 inches deep. The land is given one stroke of the harrow, but, of course,

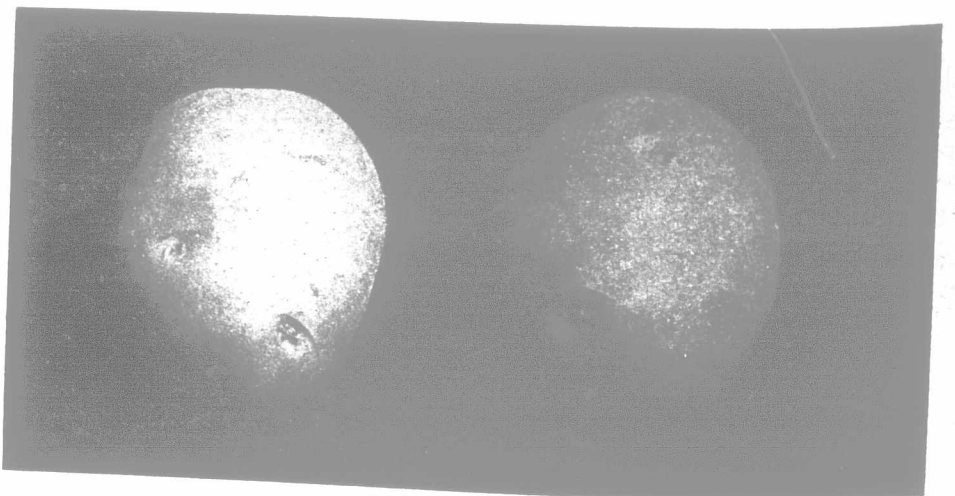


Good Quality for Seed.

this recommendation must be adapted to the character of the soil. Growers prefer to have it loose and porous rather than tramped and sodden. The sets are dropped with a planter which, at the same time, deposits in the drill about 500 lbs. of fertilizer per acre. Three inches is the depth of planting in favor. If a cold, backward spell follows planting the sets will not decay when not too deep. The machine leaves a slight ridge, and about one week after planting this is leveled down with a lever harrow with the teeth slanting backwards. In



Irish Cobbler.



Smooth Potatoes, Weighing Around 8 Ounces, Suit the Market.

reminders of the present sanguinary conflict. Children will again ask their grandfathers what it was all about; and it is to be hoped that they will get more satisfactory answers than that given by old Kaspar to the two children in the story. And, if we are honest, we shall have to go behind the immediate cause or provocation of the war and search for the more permanent and ultimate causes. In this connection I have recently read a most illuminating statement made by Hon. Clyde H. Tavenner in the United States Congress, on Feb. 15, 1915.

Mr. Tavenner's subject is the World Wide War Trust, and it is dealt with most exhaustively. His immediate purpose is to show how the U. S. Government has been exploited by the War Trust; but incidentally he shows also the magnitude, methods and results of this nefarious ring, and their relation to the present European war. It is a subject which we Canadians know little about, and which we ought to know a great deal about. I hope, therefore, Mr. Editor, that you will grant me permission to place this subject briefly before your readers.

It is alleged that systematic misrepresentation as to the building programs of Great Britain and Germany was carried on by the International Trust, with the purpose of stirring up suspicion and ill-feeling; and that similar damnable practices were adopted as regards France and Germany. The Coventry Ordnance Co. began this work in England in 1906, with most satisfactory results from the point of view of the munitions firm. In 1913 Herr Leibknecht made the most startling exposures in the German Reichstag, to the effect that a German armament firm was inspiring violent diatribes against France in German papers and at the same time inserting fake news in French papers representing

that the French war department was increasing the number of its guns;—fomenting bad feeling in these ways so as to increase the demand for arms and munitions.

Mr. Tavenner shows the thoroughly International character of the War Trust, both by exhibiting the interlocking directorates and by citing positive evidence of such an international combine in the form of agreements eliminating competition. He shows further the tremendous profits made by the War Trust and asserts that the private ownership of armor and munition factories is a standing menace to peace.

We have seen something of armor-plate patriotism in Canada since the war broke out, and how private profiteers have been able to hold the Government shops idle and thereby prevent competition. When we consider this along with the evidence submitted by Mr. Tavenner, the conclusion is irresistible. And why do the people allow such conditions to continue? The answer is supplied in part by the following list of stockholders in an English munitions firm: Sixty noblemen, their wives, sons and daughters; fifteen baronets; twenty knights; eight members of parliament; twenty military and naval officers; eight journalists.

And it is supplied in part by the fact that the people have not known these things. In Great Britain necessity has compelled the nationalising of the munition business and it is to be hoped that never again in the history of the world will the opportunity be given to giant trusts to heap up riches from the nations' blood and tears.

Let us see that war-mongering by giant armament firms is abolished. But it will not be abolished without a struggle. Those who are reaping their millions out of the present war will leave no stone unturned to perpetuate that state of international feeling which

provokes wars. It has been done in the past and it will be done in the future,—unless the bleeding and suffering masses arise in their strength and decree otherwise. All sorts of specious and false arguments and devious methods will be used by war profiteers to maintain their business, and it is our duty and privilege to see that the element of private profit is entirely eliminated from this whole business. Only thus can we rest in safety.

There is danger not only from the above species of war-mongering, but there is danger too, and terrible danger, from all those evil-minded or foolish people who are crying out to punish Germany by commercial ostracism after the war is over. God knows the world is now suffering penalty enough, the millions of innocent suffering for the few guilty ones. To maintain a constant source of ill-feeling by commercial warfare would not only be the most extreme folly from the standpoint of political economy, but would also be a most heinous sin. God grant that the British sense of "Fair Play" may prevent us from that most contemptible and corrupting conduct, the smashing of the face of the man who is down!

If all signs do not fail the present war will see the downfall of the Hohenzollern dynasty and something in the way of a political revolution in Germany. Let us assist, and not hinder, a shattered people in building up their society upon better lines. The "Golden Rule" is good politics, as we have seen exemplified so forcibly in South Africa. Let us, therefore, forgive and forget, as best we may, believing that in helping others to repair war's ravages we may best help ourselves. "Vengeance is Mine", saith the Lord, "I will repay".
Brant Co., Ont. W. C. GOOD.

What the Ontario Legislature Did for Agriculture.

Matters of agricultural interest formed a considerable portion of the business of the Ontario Legislature which has just concluded its annual Session.

As will be seen from the accompanying comparative financial statement, generous financial provision has been made for carrying on the work of the Agricultural Department during the current year. An analysis of the different items shows that not only has the usual work been provided for, but provision has been made in many instances for an extension. In the matter of Civil Government the chief explanation of the increase, aside from the salary increases of the staff, is provision for the office of the Commissioner of Agriculture recently instituted.

Live Stock Recognition.

Several branches of live stock work have also received increases. The grants to the Guelph Winter Fair and the Ottawa Winter Fair have been increased by \$2,500 and \$1,000, respectively. This makes the total grant to the Guelph Fair \$12,000, and that to the Ottawa Fair \$9,500.

For sheep-breeding experiments an additional \$2,000 has been allowed, which will make possible a considerable extension of the work of placing demonstration flocks throughout the Province, which was undertaken on a small scale last Fall.

Another \$500.00 has been provided for defraying expenses in connection with the shipment of live stock to the West, as this work, which was taken over by the Department from the Associations a year ago, has increased. Another line which has occasioned largely increased demands has been the holding of sales of pure-bred stock. For this the grant has been raised from \$800 to \$2,000 and definite regulations will be adopted as to the basis on which assistance may be rendered in the very desirable work of distributing pure-bred stock throughout the Province. A grant of \$500 has been made to the Ontario Horse Breeders' Association.

Extensions at Vineland.

In connection with fruit very important extensions are being planned for the Fruit Experimental Station at Vineland. Arrangements have been made to lease an additional twenty-five acres of land for use in plant breeding and other branches of experimental work. Then, too, the farm has been handicapped by lack of greenhouse facilities and provision has been made for erecting a reasonable amount of accommodation of this nature. Along with this, a central heating plant will be erected and provision is also made for additional cottages for the hired help. As in the case of other farmers throughout the Province, the help question is the serious one at Vineland and it is only by providing cottages and employing married men, that this can be satisfactorily dealt with. Altogether provision has been made for an expenditure of \$22,000 on capital account for the purposes mentioned. This also includes provision for a small canning factory plant, to carry on the work of putting up fruit for soldiers in Canadian hospitals, and later for experimental work.

Ontario Agricultural College.

The increases at the Ontario Agricultural College are due almost entirely to the increased cost of materials, fuel, labor, feeding stuff, etc.

Butter Grading Undertaking.

An important work is being undertaken by the Department in the plans for the grading of butter. As already explained the Dairy Branch will have grading accommodation at Toronto and London. The samples for grading will be purchased outright and for this the sum of \$75,000 has been provided. Whether all of this will be needed or not depends upon the demand for

grading, but such portion as is needed will no doubt be counter-balanced by revenue from the sale of the samples. The grading for this year will be optional and detailed regulations are now being worked out by the Dairy officials and will be announced in the very near future.

Legislation on Co-operation.

One of the most important phases of agricultural legislation, introduced by the Minister, Sir William Hearst, was that making provision for the organization of co-operative companies. This is designated, "An Act to Amend the Ontario Companies Act." Some years ago the Company Laws of Ontario were consolidated and laws dealing with all classes of companies were brought together. In accordance with this plan this Act is made a part of the general company law, instead of being made a special Act under the Department of Agriculture as in the case of other Provinces and States. It contains the provisions which apply especially to co-operative companies but, of course, they will also be subject to the other general terms of The Companies' Act. Consequently, the Department will issue a publication in the near future in concise form giving the information dealing on this subject. The new Act does not apply to any company heretofore incorporated. It provides that henceforth no Company can use the word, "co-operative", unless it conforms to the terms of the Bill. The Bill provides that no member shall have more than one vote, for the method of distributing surplus, namely, interest up to 8%; then, if desired, a reserve fund not to exceed 20% and use of up to 5% for educational or community work. Provision is made for the transfer of shares only when authorized by the Board of Directors, for the use of capital notes as capital, for the organization of branches and the making of returns. Where ten members of the Company so request, the Provincial Secretary may order an investigation of any Company. The Act received careful consideration and representations in regard to it were made to the Minister during the Session. Some of these representations were met by the amendments. As to other points, the Minister made it clear that the object of the Bill was to facilitate co-operative organization on the safest and sanest lines, and if any difficulties arose in experience, they could be dealt with by amendment at future Sessions.

Dairy Standards Act Postponed.

As already announced in "The Farmer's Advocate", the operation of "The Dairy Standards Act" was postponed by a Bill introduced in the early part of the Session by the Minister of Agriculture. The amendment provides that the Bill may go into effect upon proclamation by the Lieutenant-Governor in Council. The Minister intimated that the Department was anxious to move as rapidly in this matter as was consistent with the sentiment in the dairy districts. He is anxious to avoid such difficulties, however, as might be prejudicial to the future advancement of the legislation and in view of the strong requests made to the Department in favor of a postponement, he thought this was the wisest course at this time. In the meantime educational work will be carried on by the Department to create a stronger sentiment in favor of the proposed change.

Agricultural Societies.

The clause in the Agricultural Societies Act dealing with the returns in the case of loss through bad weather was changed in three particulars. In the past, Societies suffering from rainy weather on the day of the Fair have received 60% of the difference between their gate receipts and their gate receipts on the average of three previous years. This was changed to make it 75% on a basis of three previous normal years. In

some instances it was found that Agricultural Societies had been unfortunate enough to have three consecutive years of bad weather, and in such cases the amount due them was entirely out of proportion to their losses. The maximum of \$300 to any one Society or \$10,000 in all has not been changed. The Act, however, has been broadened to cover any Society whose buildings suffer by fire or storm on the day of the Fair or immediately preceding in such manner as to effect the gate receipts.

A change was also made in the Horticultural Societies' Act to permit the organization of Horticultural Societies in townships as well as in towns, cities and villages as in the past.

Agricultural Loans.

An important Bill dealing with loans for agricultural purposes was another introduced by the Attorney-General. It makes available loans for the erection of buildings, for machinery, fencing, draining, clearing and other permanent improvements approved by the regulations, not more than one-third of such loan being for purposes other than permanent improvements. The plan followed in this matter is practically the same as laid down in the manner of drainage loans which have been made some years past. The Treasurer of the Province will loan the money to any township upon the receipt of debentures issued by that township. The township may then loan to the individual farmer and collect with the taxes. The rate of interest shall be fixed by Order-in-Council from time to time, presumably in accordance with the fluctuations of the money market. The loans will be available to owners of land, and where land is mortgaged consent of the mortgagee must be secured to have a lien placed against the property. No loan shall exceed 60% of the assessed value of the property. The method of the repayment of the loan shall also be fixed by regulations which shall likewise deal with the matter of the appointment of inspectors and procedure to be followed generally.

In this connection it might also be noted that "The Tile Drainage Act" was amended to permit the Province to loan up to \$100,000 to any township instead of \$50,000 as in the past, and to utilize a total of \$1,000,000 for these loans rather than the \$500,000 investment in the past. These changes were made necessary by the increased demand which has been made for loans of this nature during the past few years.

Soldiers and the Land.

A Bill was passed dealing with the question of providing for agricultural settlement of soldiers and sailors in New Ontario. No legislative provision was made for the settling of soldiers on the land in Old Ontario, although it is understood that this matter has received Government consideration. As far as settlement in New Ontario is concerned, the Bill authorizes the Minister of Lands, Forests & Mines to set apart and to appropriate any territory that may be necessary and to plan farm colonies, furnishing training camps, and making such other preliminary plans as may be found necessary. Power is given for the payment of wages or other remuneration for work done on training depots or upon land settled under the Act, and assistance may also be rendered by the Department in the purchase of stock or implements and the making of such other arrangements as may be necessary to give the soldier settlers a start on the land.

Provincial Highway.

Another Bill of considerable agricultural interest was that introduced by the Minister of Public Works to provide for a Provincial Highway System. This Bill authorizes the construction of a system of highways from the south-western boundary of Ontario to the boundary line between Ontario and Quebec. This

highway is to be made up of such roads as the Lieutenant-Governor in Council, upon the recommendation of the Minister of Public Works, may designate, and roads so designated shall be "acquired, constructed, assumed, repaired, re-located, deviated, widened and maintained by the Minister for Ontario as a Provincial Highway." The road, therefore, shall be vested in the Province, but township municipalities through which such road passes shall be required to contribute 30% of the cost of construction and maintenance. Portions of the highway immediately adjacent to cities shall be designated as provincial suburban roads, and in such cases the cities so benefitted shall be assessed to the extent of 30% of the cost and maintenance. It is not planned that work on this highway shall be begun until the termination of the war, but machinery is provided in this legislation so that the initial plans may be well underway at the termination of hostilities.

Department of Agriculture Bill.

Then there was the Bill dealing with the organization of the Department of Agriculture. This, because of the political nature of the discussion which developed, possibly occupied more of the time of the House than all the previously mentioned matters put together. For several years past the Opposition has introduced a resolution dealing with agricultural matters and this has been the subject of general discussion and general attack on the Government. This year no resolution was introduced and the criticism took place on the Department of Agriculture Bill. This Bill makes possible the appointment of one or more Deputy Ministers and also the appointment of a Commissioner of Agriculture. The chief point in the criticism, however, hinged around the demand for a practical farmer for Minister, and criticism of the Prime Minister for undertaking the Department in addition to the already large responsibilities of his position. The attitude of the Opposition was summed up in a resolution which moved the six months' hoist to the Bill and declared in favor of the appointment of a practical farmer as Minister and a properly qualified Deputy Minister. In stating the position of the Government on the points raised, the Prime Minister said that he had never intended to undertake the portfolio except temporarily. For the time being he desired to familiarize himself with the work of the Department and the Province with which it was dealing, and possibly carry out some plans for the co-ordination of the work. When the time came when the interests of the department could be better served by the appointment of a farmer as Minister, he said he would have no hesitation in doing so. As to the second point in the resolution, he referred to the fact that the Deputy Minister of Agriculture had been in the Department for eight years and had held the present position for five years. The question, therefore, was as to the service rendered and as to this there had been no specific criticism but on the contrary favorable comment. As to the appointment of a Commissioner, he said that this was a matter of expansion and not duplication. He mentioned the work of the late Dr. James, who acted in an advisory and investigational capacity in the Federal Department, and said that Dr. Creelman would perform a similar service in Ontario. He explained that Dr. Creelman's services were available for this work at the present time without injury to the interests of the Ontario Agricultural College on account of the decreased attendance owing to the war, but if the time came when conditions were different, he would see that the interests of the College did not suffer. The debate occupied one afternoon and evening session.

During the session the Agricultural Committee, of which J. R. Dargavel, (M. P. for Leeds), was again elected Chairman, held several very interesting sessions. They took up the question of production and a discussion was led by Dr. C. A. Zavitz, on farm labor, discussions were led by Dr. W. A. Riddell and J. D. Allan of the Board of Trade. A discussion on the Bacon Hog was led by Professor G. E. Day, and on Soils by Professor Robert Harcourt. Very considerable interest was shown in the different sessions of the Committee.

Appropriations for Agriculture.
(Including Capital Account.)

	1916	1917
Civil Government, Printing Reports and Bulletins, Statistics, Miscellaneous	\$ 70,675.00	\$ 81,116.66
Agricultural College	335,141.00	329,567.00
Agricultural and Horticultural Societies	163,950.00	164,475.00
Live-Stock Branch	50,647.24	58,350.00
Institutes Branch	41,072.24	41,375.00
Dairy Branch	64,150.00	144,547.30
Fruit Branch	62,325.00	85,475.00
Ontario Veterinary College	33,893.07	33,228.83
District Representatives	80,600.00	80,600.00
Demonstration Farm	10,000.00	8,000.00
	\$912,453.55	\$1,026,734.79

Labor in the B. C. Fruit Districts.

There always has been and so long as Orientals will live at a lower level morally and socially than whites, there will continue to be a strong feeling in British Columbia against employing this class of foreign labor, and since the war, there has been given to the Oriental an opportunity to get stronger established in the Province. To weaken this foothold the women of Vancouver, under the heading of the B. C. Consumers' League,

called a meeting to discuss the labor situation with delegates and representatives of the fruit growers. One of the ladies speaking on the subject stated that they wished it understood that they were going out to work for the Empire and to save the situations vacated by their men so that these would be open for them on their return rather than to be working for the interests of the fruit growers. One of the papers writing on the subject puts it this way, that the women are determined that the Oriental shall not gain a footing in the fruit industry during the absence of the men who have enlisted. So enthusiastic are they that the Consumers' League, which represents 3,000 women in Vancouver, have decided to offer their services to the fruit growers. Some of them went so far as to suggest that if Orientals were used instead of white labor that the fruit from such orchards and gardens should be boycotted.

Mr. Winslow, the Provincial Horticulturist, in speaking to the gathering said, "If the sentiment of the women of Vancouver is all right there will be no trouble in arranging details in the way of accommodation at the Okanagan end." Two thousand five hundred men have enlisted from the Valley, and last season Orientals had to be used widely throughout the Valley. It is estimated that fully 70 per cent. of the labor employed was Oriental. The women have an opportunity to save this work for the soldiers when they return, and in the Okanagan Valley some 3,500 to 4,000 men can be given good reliable employment after the war is over. It is worth making a sacrifice to save this industry for the white people.

The women last year saved the Province six million dollars by the buy-at-home movement, and they can, if they will rise to this opportunity, save a heavily capitalized industry for the men who are now in service overseas. Employment is certain from July to November 15.

A representative of the Mission Hatzic fruit district, speaking to the meeting said that the associations at these two places would require 1,500 pickers for the berry crops, commencing in June and continuing till September. He made the statement that these districts paid more for picking than any other fruit district in the world. He assured them that if they meant business and would work and not treat the matter as a holiday of leisure they would be given comfortable domestic equipment and that they could earn easily \$2.00 a day. He went to the other side of the matter and stated that if the women failed them they would have to turn to the Chinese and Doukhobors, and he regarded the latter as a greater menace than the Chinamen, but they were only too willing to take hold.

In speaking to one of the biggest box manufacturers who supplies the fruit districts, he said that the war has done more to solve the Oriental labor problem than anything else. It was his opinion that the white people felt themselves above labor and wanted only "nice" work, which had left the field of labor open to the Orientals, and he said it was a fact that they had brought the whites "down off their high horse," and he was finding it easy to get girls to do the light work and that they did it well. He believes the problem is solving itself and will stay solved after the war is over.

B. C.

WALTER M. WRIGHT.

Selecting the Type of White Burley to be Grown in Ontario.

EDITOR "THE FARMER'S ADVOCATE":

There are two distinct types of White Burley now being grown in the Burley sections, namely: the original Broadleaf Burley and the Improved Standard Burley. The Broadleaf Burley, as the name indicates, is a large type with broad, drooping leaves, large veins, a heavy yielder, and, on account of the large sap content of the leaves, it is inclined to cure up a little dark.

The Improved Standard is a somewhat smaller type than the Broadleaf Burley, with narrow, erect leaves, smaller veins, of a little finer texture than the Broadleaf, and, on account of a smaller sap content in the leaves, it is inclined to cure a little brighter color. The narrow leaves also tend to decrease the percentage of wrappers in the Standup Burley.

Since the popularity of, and the returns realized from, any type of tobacco, depend largely on the quality of the cured product and the yield per acre, experiments were conducted at the Harrow Tobacco Station during the past season to determine the merits of the two types. Four plots of ground, with as nearly the same texture, character and fertility as possible were selected. Two of these plots were planted to Broadleaf Burley, and two to the Improved Standup Burley respectively. All four plots were planted at the same time, with plants as nearly uniform in size and vigor as possible; fertilized alike; cultivated alike; and harvested and cured under the same conditions.

The following table gives the results obtained:

Type of Burley	Plot No.	Yield per Acre in Pounds	% Bright Leaf	% Red Leaf
Improved Standup	1	1073	79.2%	20.8%
Improved Standup	2	1125	83.4%	16.6%
Broadleaf Burley	1	1370	72.3%	27.7%
Broadleaf Burley	2	1228	79.5%	20.5%

Since the above gives the results for only one year's experiments, and the past growing season was a very poor one, these results cannot be taken too conclusively. However, they are a fair indication that the yield

obtained with the Broadleaf type is appreciably greater than the yield obtained with the Standup type, and also that the increased percentage of bright leaf obtained with the latter, is hardly large enough to offset the increased yield obtained with the Broadleaf type.

However, with the Broadleaf Burley, especially, too much importance cannot be attached to getting the crop planted early, letting it ripen thoroughly before harvesting, having a well-ventilated barn for curing, and properly regulating the ventilation during the curing season if a crop of good color and quality is to be obtained.

EXPERIMENTAL FARMS NOTE.

Taking the Labor and Other Questions to the Farmer.

There are two rather unfortunate circumstances in connection with the campaign to get city men who know how to do farm work on the farms this year. The first is the late start that was made and the second the fact that representative, hard-working, real farmers were not called in on the beginning for their ideas and support, but these are not sufficient to condemn the movement. What a pity it is that Ontario farmers could not have been aided last autumn to fall prepare more land for spring seeding and were not then assured of plenty of help to put in the seeding and harvest the crop. It is late now to increase the acreage very materially, but something may be done. Then the movement was started without properly "feeling out" the farmer as to the men he needed and how he could use them now. It was at first assumed that two or three weeks of extra help would do most farmers, but this was later sensibly changed to three or four months. But farmers were, in the beginning, a little suspicious and skeptical and past experiences have warranted them in being so. They have been fooled and nipped in time past. All this feeling could largely have been removed by getting the farmer in the movement first. However, it is never too late to mend and the leaders of the movement in Toronto at least, and we presume the same will be followed out in other cities, are now, we understand, planning to go out to the country towns, villages and to the farmers in a final attempt to place the men. Our suggestion is that they enlist the aid in each district or locality of one or two representative, and respected, working farmers to help establish confidence in the minds of those farmers called upon that the men are to be the kind the farmer wants and that no trouble in wages settlement or in any other way is to result.

We understand that \$1.10 per day with board is the highest wage the farmer will be called upon to pay, and that employers who release these men to the farms are making up the wage difference to the men. The farmer can make definite arrangements as to what he is called upon to pay and no trouble whatever should result. The claim is now made that at least 1,000 men raised on farms and now in the city of Toronto are available for farm work and it is also claimed that the greater part of them know how to work and are fit and able. The work is in the country to be done. We have heard that Brant County, as one instance, can take 1,000 men. Everyone is pleased to know that those in charge of the movement have sufficient confidence in it to carry it right out to the farms. Once the help of the representative farmers in the various neighborhoods is enlisted and the leaders get the farmers' viewpoint, we venture to say the men can be placed satisfactorily to all concerned. That is the only way to improve by the mistakes already made. Farmers have criticized and made fun of the movement. The Agricultural Press has criticized and pointed out wherein errors have been made and the latter, at least, with but one object in view, to uphold the interests of the farmer and to show wherein the city man might improve in his methods for extending patriotically proffered aid. Already good fruits are being borne. Everyone knows that a late start was made and all agree that it was a mistake. These things can be remedied if conditions continue to require such effort for increased production another year, and by getting on the farms with practical and well-known farmers along to establish confidence and help explain the matter, the representatives of the city Boards of Trade can still improve the outlook for this year.

The farmer and the agricultural viewpoint must be considered first in all propaganda intended to aid him. All forces—the farmer himself first, the Departments of Agriculture, Boards of Trade, and the Agricultural Press—will do better service by working together, but it must be always kept in mind that the farmer thinks a little for himself and must get practical help which appeals to him. No man is justified, if he needs help, in turning down a man offered him, provided he is assured that man is what he needs and can do the work. All hands are learning through experience, the best though expensive teacher, and each following year should find conditions better than those of the year that is past. If you can get the men take them and all hands Produce!

New Canadian Butter-Fat Record.

On going to press we are informed that a new Canadian butter-fat record has been made by Beauty Maid, a four-year-old Jersey, owned by D. A. Boyle of Woodstock. In twelve months under test this cow produced 14,852 pounds of milk which yielded 872 pounds of butter-fat. This is an exceptionally high yield and shows the possibility of butter-fat production.

The Road Congress at Ottawa.

There opened on Tuesday, April 10, in the city of Ottawa, the fourth annual Canadian and International Good Roads Congress. In the very beginning of the Conference delegates were encouraged by the presence of His Excellency, the Duke of Devonshire, who officially opened proceedings, and also by other distinguished speakers, among whom were Sir Wilfrid Laurier, Sir George E. Foster, and others.

These speakers pointed out that road making was a patriotic work, and that the future history of the country would be reflected by its roads. A number of the papers dealt with technical and engineering questions, as to composition, construction and maintenance of roads.

W. A. McLean compared our transportation system to a tree, which, to grow and expand must get its vital strength from the soil. The railways were described as the trunk of the tree, which must derive strength from good public highways. The transportation system of the country must have its roots in the common highway, and it is very gratifying to recall the fact that every Province in the Dominion has created special Departments to deal with the question of the construction of public highways.

S. L. Squire, Honorary President of the Ontario Good Roads Association, welcomed the delegates on behalf of the Province of Ontario. A. A. Dion, of the Ottawa Valley Motor Car Association, also spoke in encouragement of the movement.

On the second day of the Convention the sessions got down to a discussion of the detailed questions entering into the good roads problem. In discussing Ontario Highway Legislation, W. A. McLean, Deputy Minister of Highways for the Province, stated that the road laws of Ontario are based on the municipal system, with progressive self government throughout the Province. At the present time townships are spending annually over \$1,400,000 in cash and 1,100,000 days of statute labor having a total estimated value of \$2,500,000. As a general thing the mileage of road assumed by the county under the County Road System is from twelve to eighteen per cent. of the total mileage of the county, and county roads must be built in accordance with the regulations of the Department of Public Highways. Mr. McLean described the Ontario Highway Act as an ideal law, constructed on the Ontario Municipal Act. In his opinion the building of the Provincial Highway System will be a matter of gradual development and extension. All roads should be built and maintained in proportion to the traffic over them. Good, main roads are valuable in rural development and a convenience to urban dwellers, and the construction of main highways radiating from a city is undoubtedly of great value to the city as well as to the country.

Col. William D. Sohler, Chairman of the Massachusetts Highway Commission, addressed the Convention on Bituminous Macadam Roads, and pointed out that in his State increased motor traffic had worn out the older roads to such an extent that it was necessary to use some form of bitumen. Strong roads were necessary, and tars and asphalt were in use.

George Hogarth, Chief Engineer of the Ontario Public Highways Department, gave a technical paper on road drainage and foundations. The stability of the entire road service depends upon the foundation, and the foundation itself is dependent upon the facilities provided for good drainage. The water must be pumped out of the subsoil, and then a suitable foundation can be built on that dry subsoil. As soon as the foundation of a road becomes soft and yielding, the road will break through. The whole problem of maintenance rests largely with drainage. Undrained roads are injured more by frosts. Where the drainage and foundation

are right the surface will pretty well take care of itself. James H. MacDonald, formerly Highway Commissioner in Connecticut, read a paper on construction and maintenance of gravel used on roads and gave some interesting advice on repairing, stating that dropping gravel into a hole does not remedy the trouble. The gravel should, on the other hand, be dumped near the hole and then carefully spread and levelled. He did not believe in oiling Macadam or gravel roads. There were a number of other papers given at the Convention, but nearly all of them were of a technical nature, as will be gleaned from some of the following



Carrying Swill.

Showing an old-fashioned yoke not often seen in these days. Such yokes were once used in the sugar bush also.

subjects: Modern Road Machinery, Its Selection, Use and Care, by W. Huber, Assistant Engineer of the Ontario Public Highways Department; Road Organization, by Geo. S. Henry, M.P., for Ontario; The Contract of Specifications for Paving, by C. A. Mullen, Montreal; Sheet Asphalt Pavements, by T. Lindsay Crosley, Toronto; Road Tars and Oil, by A. Thur H. Blanchard, New York; and the Highway in Relation to Land Development, by Thos Adams, of the Commission of Conservation, Ottawa.

Frosts Injure Clover and Wheat.

As we go to press, April 16, conditions are rather unfavorable for the clover and fall wheat crop over a large part of the Province of Ontario. When the snow went off earlier in the spring the wheat looked well, as did also the new seeding, but the hard frosts of the last two weeks have begun to play havoc on exposed fields. In fact, one week ago when work was started on this issue, we believed that the wheat and clover would be safe, and made an editorial paragraph to that effect, but the last few days of last week brought more severe frosts and cold weather, and in looking over some of our clover fields yesterday we found that where the stubble was not long, and particularly on the knolls, considerable of the clover was completely pulled out and more of it was heaved to a very injurious extent. A field of wheat across the road did not seem to have suffered so badly, but in talking with some of our readers we hear that much of the wheat has been injured to a degree.

There were some object lessons in our clover fields which we pass on to our readers. On one thirteen-acre field, which had been seeded with winter wheat, the new seeding seems to have stood the frosts well and very little heaving is noticed. A long stubble was left on this field when the wheat was cut, and this, no doubt, has served as a protection for the clover. Furthermore, the field is fairly well underdrained and this may have had some effect. One reason that we draw attention to this is because on another field where there was little or no stubble left when the oats, which were a light crop, were cut, and where the land is not all underdrained we noticed that the clover was badly heaved, particularly where there were no drains and on exposed knolls. Where the drains ran through this field, and in the hollows, heaving had not been so injurious, but on the whole that field where the stubble was short (practically nothing at all) is not in a promising condition at the time of writing. Equally well-marked was the difference between the clover on a portion of another field where there was plenty of stubble left, and that on the other half of the field where the stubble was very light. The first-mentioned portion of the field was seeded with a mixed crop of oats and barley last year and the other half was barley alone. Of course, the crop of mixed grain was a much better one than the crop of barley seeded alone, largely because it was put in earlier and then, too, mixed grain generally does better than either oats or barley sown alone. At all events there was a much heavier stubble on this portion of the field, and on it the clover has resisted the late frosts to much better advantage than on the other half where the stubble is very light. This entire field is well underdrained, so that there seems to be a great deal of virtue in a long, heavy stubble in saving clover seeding through the winter and through the spring frosts.

There is another point which we wish to emphasize, and that is the inadvisability of pasturing newly-seeded land closely in the fall. Last fall we were very short of pasture at Weldwood, the bad season simply burning up the grass in late summer and early fall. It seemed absolutely necessary that the clover be pastured, and it was eaten down quite closely in some of the fields. The field seeded with the fall wheat was not cropped off quite so closely as the other two fields, and it is in the best condition of the three to-day.

In an endeavor to save the clover and give it a start all three fields are being rolled as fast as possible. This may help some, but the injury has been great. Just how badly the wheat and clover has been pulled the Province over we are not able to state, but judging from conditions at the time of writing and from reports from readers, very few more nights of such severe frosts as we have been having will surely work great havoc.

Toronto, Montreal, Buffalo, and Other Leading Markets

Toronto.

Receipts of live stock at the Union Stock Yards, West Toronto, Monday, April 16, consisted of 121 cars, 2,535 cattle, 238 calves, 910 hogs, 27 sheep and lambs. Butcher cattle slow at Thursday's decline in price. Cows and bulls steady. Stockers and feeders strong, milkers and springers steady. Sheep and lambs strong, calves weak, fifty cents lower. Hogs seventeen dollars, weighed off cars.

The total receipts of live stock at the City and Union Stock Yards for the past week were:

	City	Union	Total
Cars	45	529	574
Cattle	545	3,773	4,318
Calves	101	1,551	1,652
Hogs	342	11,498	11,840
Sheep	48	167	215
Horses	20	3,168	3,188

The total receipts at the two markets for the corresponding week of 1916 were:

	City	Union	Total
Cars	40	447	487
Cattle	572	5,274	5,846
Calves	348	1,599	1,947
Hogs	569	11,809	12,378
Sheep	132	366	498
Horses	137	763	900

The combined receipts of live stock at the two markets for the past week show an increase of 87 cars and 2,288 horses, but a decrease of 1,528 cattle, 295 calves, 538 hogs and 283 sheep and lambs when compared with the corresponding week of 1916.

The supply of cattle for Monday's market was light, only 1,336 cattle of all grades being on sale. Trade was decidedly strong with butcher steers and heifers, cows and bulls all selling at prices 25c. to 50c. higher than the previous week. Two choice baby heaves, 790 lbs. each, sold at \$13 per cwt.; 21 steers, 1,300 lbs. each, at \$12.25; quite a large number of loads sold at from \$11.75 to \$12.00 per cwt. The highest price of the week for straight loads of cattle was \$12.50 for 18 steers, average weight 1,430 lbs. The top price for small lots was \$13.00 for 4 steers, average weight 1,530 lbs. On Thursday trade was slow and from 25c. to 40c. lower for most butcher cattle.

Cows on Monday were strong and 25c. to 50c. higher, choice selling at from \$9.75 to \$10.25. They remained at this price all week and closed steady. A few extra choice cows sold as follows: One, 1,600 lbs., at \$11.50 per cwt.;

three, 1,240 lbs., \$10.50; 3, 1,340 lbs., at \$10.40. Bulls were also in strong demand at prices 25c. to 50c. higher, choice selling at \$10.25 to \$10.75 and a few at higher prices as follows: One, 1,750 lbs., at \$11.00; one, 1,660 lbs., at \$11.00; one, 1,810 lbs., at \$11.15.

Trade in stockers and feeders was much improved and few if any were held over. They sold as quoted elsewhere. Milkers and springers were without change from the previous week. Sheep and lambs have been very strong and in demand. Yearling lambs sold at 14c. to 16c. per lb. for choice, and choice sheep at 10 1/2c. to 12 1/2c. per lb. One extra choice selling at 14c. per lb.

The calf market was very irregular, up one day and down another. The week's trade closed with them selling firm as follows: Choice veal, 14c. to 15c. per lb., a few at 15 1/2c. per lb.; medium at 11c. to 13c. per lb., and common at 6c. to 8 1/2c. per lb.

Hogs.—The market opened Monday with fed and watered selling at \$15.90; during the rest of the week they continued to advance until on Thursday fed and watered sold at \$16.60 to \$16.75, and weighed off cars at \$16.85 to \$17.00 which

is the highest price ever paid in Canada.

Live Stock Quotations.—Heavy steers, choice, \$11.75 to \$12.25; good, \$11.25 to \$11.75. Butcher steers and heifers, choice, \$11.25 to \$11.75; good, \$10.75 to \$11; medium, \$10 to \$10.50; common, \$9 to \$9.75. Cows, choice, \$9.75 to \$10.25; good, \$9 to \$9.50; medium, \$8.25 to \$8.75; common, \$7 to \$8. Canners, and cutters, \$5.40 to \$6.25. Bulls, choice, \$10.25 to \$10.75; good, \$9.50 to \$9.75; medium, \$8.50 to \$9.25; common, \$7.50 to \$8.25. Stockers and feeders, best, \$9.50 to \$10; medium, \$8.75 to \$9; common, \$7.75 to \$8.25; grass cows, \$6.75 to \$7.50. Milkers and springers, best, \$9 to \$11; medium, \$65 to \$85; common, \$50 to \$60. Lambs, spring lambs, \$7 to \$14 each; yearling lambs, choice, 14c. to 15 1/2c. per lb.; culls, 9c. to 12c. per lb. Sheep light, 10 1/2c. to 12 1/2c. per lb.; heavy, 8 1/2c. to 9 1/2c. per lb. Calves, choice, 14c. to 15c. per lb.; medium, 11c. to 13c. per lb.; common, 6c. to 8 1/2c. per lb.; heavy, fat, 7c. to 9 1/2c. per lb. Hogs, fed and watered, \$16.60 to \$16.75; weighed off cars, \$16.85 to \$17.00.

Less \$2 to \$2.50 off sows, \$4 to \$5 off stags, \$1 off light hogs and \$2 off thin feeder pigs, and half of one per cent. government condemnation loss.

Breadstuffs.

Wheat.—Ontario, according to freights No. 2 winter, per car lot, \$2.00 to \$2.02; No. 3, winter, per car lot, \$1.98 to \$2; Manitoba wheat (track, bay ports) —No. 1 northern, new, \$2.28½; No. 2 northern, \$2.24; No. 3 northern, \$2.19; No. 4 wheat, \$2.08½; all rail delivered; Montreal freights.

Oats.—Manitoba, all rail, delivered enroute; No. 2 C. W., 78¾c.; No. 3 C. W., 76¾c.; extra No. 1 feed, 76¾c.; No. 1 feed 75¾c. Ontario oats, according to freights outside, No. 2, white, 71c. to 73c., nominal; No. 3, 70c. to 72c., nominal.

Peas, according to freights outside, No. 2, nominal.

Barley, according to freights outside, malting, \$1.26 to \$1.28.

Buckwheat, according to freights outside, nominal, \$1.38 to \$1.40.

Rye, according to freights outside, No. 2, \$1.68 to \$1.70.

American corn (track, Toronto), No. 3 yellow, \$1.39, subject to embargo.

Flour.—Ontario winter, \$8.35 to \$8.45, in bags, track, Toronto; \$8.10 to \$8.20 bulk, seaboard, export trade. Manitoba flour, first patents, in jute bags, \$10.70; second patents, \$10.20; strong bakers', \$9.80.

Hay and Mill Feed.

Hay, extra No. 2, per ton, \$11.50 to \$12; mixed, per ton, \$8.50 to \$11.

Straw.—Car lots, per ton, \$7 to \$7.50.

Bran.—Per ton, \$38; shorts, \$40 to \$42—middlings, per ton, \$43 to \$45; feed flour, per bag, \$2.70 to \$2.80.

Hides and Skins.

City hides, flat, 20c.; country hides, cured, 20c.; country hides, part cured, 18c.; country hides, green, 17¾c.; calf skins, 25c.; kip skins, 20c.; sheep skins, city, \$2.50 to \$3.50; sheep skins, country, \$1.50 to \$3; lamb skins, spring per lb., 30c. to 60c.; horse hair, per lb., 42c.; horse hides, No. 1, \$6 to \$7; No. 2, \$5 to \$6 wool, washed, 45c. to 50c. per lb.; wool rejections, 35c. to 38c. per lb.; wool, unwashed, 37c. to 40c. per lb.; tallow, No. 1, cake per lb., 9c. to 10c.; tallow, solids, 8c. to 9c. per lb.

Country Produce.

Butter.—Butter remained stationary in price on the wholesales during the past week. Creamery, fresh-made pound squares, selling at 43c. to 45c. per lb.; creamery solid, 40c. to 41c. per lb.; dairy, 35c. to 37c. per lb.; separator dairy, 40c. to 42c. per lb.

Eggs again declined slightly selling at 35c. to 36c. per dozen wholesale.

Beans, prime white selling at \$6 to \$7.50 per bushel, and Limas at 14c. per lb.

Poultry.—Live-weight prices: chickens, 22c. per lb.; fowl under 4 lbs. 18c.; fowl 4 to 5 lbs., 22c. per lb.; fowl 6 lbs. and over 25c. per lb.; squabs, dressed, \$3.50 to \$4 per dozen.

Cheese.—June, per lb., 28c.; twins, 28¾c. per lb.; new, per lb., 27c.

Honey.—Six-lb. tins selling at 12c. per lb.; glass jars, \$1 to \$2 per dozen; combs, \$2.50 to \$3 per dozen.

Wholesale Fruits and Vegetables

Apples are still scarce; very few choice ones being offered. Ben Davis, Baldwins and Spys being about the only ones, selling at \$3 to \$8 per barrel, according to quality.

Bananas were quite firm at \$2.50 to \$3 per bunch.

Grapefruit advanced; Floridas selling at \$4.75 to \$5.50 per case; Porto Rico at \$3.50 to \$4, and Cuban at \$3.75 to \$4 per case.

Lemons.—Both Messina and California varieties were received; the former selling at \$3.50 to \$3.75 per case and the latter at \$4 to \$4.25 per case.

Oranges were slightly easier; Navels selling at \$3.50 to \$3.75 and a very few at \$4 per case. Floridas not selling very well at \$3.25 to \$3.75 per case.

Pineapples are beginning to arrive more freely; Porto Rico 30's and 24's selling at \$4.50 per case; 36's at \$1.25 per case.

Rhubarb has been rather scarce lately; the small quantity shipped in selling at \$1 to \$1.25 per dozen bunches.

Strawberries came in in increased quantities, principally from Louisiana, now selling at 17c. to 18c. per pint, and 32c. to 33c. per quart box.

Tomatoes.—Florida tomatoes came back after quite an absence due to the severe frosts down there—selling at \$7.50 to \$8 per six basket-crate.

Asparagus.—Shipments are increasing and are of choice quality, selling at

\$7 to \$9 per case of one dozen large bunches.

Very few beets were received, selling at \$2.50 to \$3 per bag, the latter being two bushels.

Carrots remained stationary at \$2 per bag.

Florida celery continued to arrive, but was generally of poor quality, selling at \$3.50 to \$5 per case.

Leaf lettuce was scarce, advancing to 40c. to 45c. per dozen bunches; the imported head selling at \$3 to \$3.50, and \$4 to \$4.50 per hamper.

Onions remained stationary at \$8 to \$9 per 75-lb. bag; New Zealand, \$9.50 per 95-lb. crate; Spanish at \$4.50 per half case, and \$3 per large case.

Parsnips were very scarce, selling at \$2.50 per bag and 65c. per 11-qt. basket.

Potatoes advanced; New Brunswick Delawares selling at \$3.75 to \$4 per bag, westerns at \$3.50 per bag and Cobbler seed potatoes at \$4 per bag.

Montreal.

The tone of the cattle market during last week was a little indifferent, as is not infrequently the case following Easter week. The offerings of stock were not very large and the quality of the cattle was only fair, for the most part. Some odd lots of fine steers sold at 11¾c. to 11¾c., but the general price for good was 11c. to a fraction better. From this, the price ranged down to 9c. for ordinary stock. Offerings of butchers' cattle were moderately large and prices showed practically no change. Butchers' cows ranged from 8c. to 9c. per lb., while bulls brought about 1c. more than cows, while some were available at around 8¾c. to 9¾c. Small meats were in very light supply. Offerings of spring lambs were somewhat larger and prices still ranged from \$14 to \$15 each, although sales are understood to have taken place at about \$1 less. Old sheep changed hands at 9½c. to 10½c. per lb. Calves continue to be offered in fairly large numbers. Milk-fed calves sold at 8c. to 12c. per lb., while common stock brought from 5c. to 7c. per lb. Hogs were about steady and prices ranged from 16½c. to 16¾c. per lb.

Horses.—The improvement in the roads has removed many transportation difficulties and released many extra horses for customary employment, so that, for the moment, the demand on the part of carters has ceased. Little was heard here of the effect on the market of the resumption in buying by the British Government. Prices continued steady, being as follows: Heavy draft horses, weighing 1,500 to 1,700 lbs., \$200 to \$250 each; light draft horses, weighing 1,400 to 1,500 lbs., \$150 to \$200 each; small horses, \$100 to \$125 each; culls, \$50 to \$75 each; choice saddle and carriage horses, \$200 to \$225 each.

Poultry.—The market turned very dull. Turkeys were quoted nominally, at 26c. to 30c.; chickens and ducks, 19c. to 25c.; fowl and geese, 16c. to 22c.

Dressed Hogs.—Dressed hogs were in fair supply, and prices showed practically no change. Everything that was offered was quickly snapped up. Quotations were 22¾c. to 23c. per lb.

Potatoes.—During last week the tendency in the potato market was towards higher prices once more. Offerings have not been large in spite of the fact that the weather continued favorable enough for deliveries, and country roads have shown some improvement. Green Mountains were quoted at \$3.25 per bag of 80 lbs., while Quebec whites were \$3.15.

Maple Syrup and Honey.—Receipts of maple syrup so far in the new season have not been very large, and demand is quite active. Prices show small enough change, old crop being still around 95c. per 8-lb. tin; \$1.10 for 10-lb. tins, and \$1.25 to \$1.30 for 13-lb. tins. New crop syrup was dearer than old by perhaps 10 cents per tin. New maple sugar was about 15c. per lb. Honey showed no change, white clover comb being 15c., white extracted and brown clover comb, 12c. to 12½c., and brown extracted 11c., with buckwheat honey 10c.

Eggs.—The price of eggs declined during last week. Receipts have been quite large, and the trade was fairly well supplied for the moment. Fresh eggs were quoted at 36c. per dozen. A decline following Easter is a customary occurrence in the market for eggs.

Butter.—Receipts of fresh-made butter are not as yet sufficiently large to affect prices of held creamery. The

weather continues cold and the growth of grass is more backward than usual, and this is causing the market to hold firm. Prices were 43c. for finest held creamery, per lb., and 42c. to 42½c. for fine; fresh makes sold at 41c. per lb., for best, and 40c. for undergrades. Dairies ranged from 36c. to 38c. per lb.

Cheese.—There was very little interest in the local cheese market. The make was very small, and prices ranged from about 24c. to 24½c. per lb. for fodder cheese.

Grain.—The grain markets were quite firm all the way round during the week, and wheat advanced in Chicago to \$2.19 for May options, and \$2.12 at Winnipeg. There was no quotation here, but it is understood that some transactions in Manitoba took place at \$1.25 to \$1.30. American corn was quoted at \$1.45 to \$1.48, and Manitoba No. 4 barley, \$1.23, with feed barley, \$1.09 per bushel, ex-track. No. 2 Canadian Western oats were quoted at 78¾c.; No. 3 Canadian Western and extra No. 1 feed at 77¾c.; No. 1 feed, 76c.; No. 2 feed, 75c. per bushel, ex-store.

Flour.—The market was very strong. Manitoba first patents were \$10.80; seconds, \$10.30; strong bakers', \$10.10 per barrel, in bags. Ontario patents, \$9.30 to \$9.60, in wood, and \$4.50 to \$4.65 per bag.

Baled Hay.—This market showed no change. No. 2 hay was \$13.50 per ton; No. 3, \$12 to \$12.50; clover, mixed, \$11 to \$11.50 per ton, ex-track.

Hay Seed.—Prices were steady. Timothy, on track, Montreal, was \$7 to \$12 per 100 lbs.; red clover, \$20 to \$25, and alsike, \$15 to \$25.

Hides.—Beef hides were up 1c., at 27c., 26c. and 25c. per lb. Calf skins were 42c. and 40c. per lb.; sheep skins, \$4 each; spring lambs, 25c.; horse hides, \$7.50 each. Tallow was 3c. to 5c. per lb. for rough, and 8c. to 9c. for rendered.

Buffalo.

Cattle.—Cattle prices generally were given another boost at Buffalo last week, shipping cattle, of which there were twenty-five to thirty loads, advancing all the way from a quarter to forty cents, best shipping steers making the record-breaking price of \$13 to \$13.10, with very few shipping steers selling below twelve cents. In the butchering steer line local packers paid up to \$11.50 to \$12 for steers on the handy and medium weight order, these being fully a quarter above the preceding week. Heavy fat cows never sold so high on the market, bringing up to \$11, with heavy, fat heifers up to \$12.25. Medium and common kinds of cows and heifers sold steady to shade higher. Bulls made some new records, selling up to \$9.75 to \$10, with the little, common kinds selling readily around \$6.50 to \$6.75. Stockers and feeders were taken mostly for kill, good feeders selling up to \$8.75 to \$9. Milk cows and springers were in light supply and sold at about steady prices. Demand was especially good all week for anything in the shipping steer line, and the better classes of butchering cattle. Offerings for the week totaled 3,825 head, as against 4,000 for the corresponding week last year. Quotations.

Shipping Steers.—Choice to prime natives, \$12.50 to \$13.10; fair to good, \$11.50 to \$12.25; plain, \$11 to \$11.25; very coarse and common, \$10 to \$10.50; best heavy Canadians, \$12.25 to \$12.50; fair to good, \$11.75 to \$12; common and plain, \$10 to \$10.50.

Butchering Steers.—Choice heavy, \$11.25 to \$12; fair to good, \$10.50 to \$11; best handy, \$11 to \$11.50; fair to good, \$10.50 to \$10.75; light and common, \$9.50 to \$9.75; yearlings, prime, \$12 to \$12.50; fair to good, \$10.50 to \$11.50.

Cows and Heifers.—Best heavy heifers, \$9 to \$9.50; fair butchering heifers, \$8.25 to \$8.75; light and common, \$7.50 to \$8; very fancy fat cows, \$10.50 to \$11; best heavy fat cows, \$9 to \$9.50; good butchering cows, \$7.75 to \$8.50; medium to fair, \$6.50 to \$7.50; cutters, \$5.75 to \$6; canners, \$4.50 to \$5.50.

Bulls.—Best heavy, \$9.50 to \$10; good butchering, \$8.50 to \$9; sausage, \$7.50 to \$8; light bulls, \$6.50 to \$7; oxen, \$9 to \$10.

Stockers and Feeders.—Best feeders, \$8.50 to \$9; common to fair, \$7.50 to \$8; best stockers, \$8 to \$8.25; common to good, \$7.25 to \$7.75.

Milchers and Springers.—Good to best,

in small lots, \$90 to \$115; in carloads, \$75 to \$85; medium to fair, in small lots, \$60 to \$70; in carloads, \$55 to \$60; common, \$40 to 50.

Hogs.—New American records were established at Buffalo last week. Monday a \$16.45 top was scored, with the bulk selling from \$16.25 to \$16.40; Tuesday sales were made from \$16.50 to \$16.60; Wednesday one deck reached \$16.80, with bulk going at \$16.70; Thursday prices were five to ten lower, top being \$16.75, and Friday a new high mark was made, when three decks scored \$16.85, and the balance sold from \$16.50 to \$16.75. The week opened with pigs selling at \$14.50, the next three days bulk of these weights sold at \$15, and Friday they moved at \$14.50 and \$14.75. Roughs, \$14.25 to \$14.75, and stags \$13 down. Receipts last week were 16,000 head, being against 18,132 head for the week before, and 26,100 head for the same week a year ago.

Sheep and Lambs.—Record prices were again paid the past week. The high days for wool lambs were Wednesday, Thursday and Friday, when tops sold up to \$16.75, and the low day was Monday, when the range was from \$16 to \$16.25. General range on cull lambs that carried wool was from \$15.75 down. Last week started with top handy clipped lambs selling at \$13 and \$13.10, and before the week was out or on Friday, this class of stuff showed a top of \$14, with majority going at \$13.75. Cull lambs without fleece sold from \$12 down. Wool sheep sold up to \$14.50, shorn yearling wethers brought up to \$12, and clipped sheep ranged from \$11.25 down. Last week receipts were 12,000 head, as against 10,681 head for the week before, and 15,100 head for the same week a year ago.

Calves.—Top veals the first two days of last week sold mostly at \$14.50; Wednesday and Thursday bulk landed at \$15, and Friday sales on the best lots were made at \$15 and \$15.25. Culls sold good, ranging from \$13 down. Offerings last week aggregated 4,700 head, as compared with 4,487 head for the week previous, and 4,400 head for the same week a year ago.

Chicago.

Cattle.—Beeves, \$9.30 to \$13.25; stockers and feeders, \$7.30 to \$10; cows and heifers, \$5.75 to \$11; calves, \$9 to \$13.25.

Hogs.—Five cents higher. Light, \$15.40 to \$16.15; mixed, \$15.65 to \$16.35; heavy, \$15.65 to \$16.35; rough, \$15.65 to \$15.80; pigs, \$11.50 to \$14.50.

Sheep.—Lambs, native, \$12.15 to \$16.

Cheese Markets.

Belleville, 24¾c.; Montreal, finest westerns, 24c. to 24¾c.; finest easterns, 23c. to 23¾c.; New York, specials, 25c. to 25¾c.; average run, 24¾c. to 25c.

The "Quality Sale" of Holsteins.

If you want thirty, forty or fifty-pound Holstein blood in your herd, just when the spring is opening up and a period of cheaper feeding is about to be ushered in, you can obtain it at the great "Quality Sale" to be held by the York County Breeders, at Richmond Hill Fair Buildings, on Wednesday, May 9. It is only a few minutes' trolley ride north of Toronto, and when you get to the place you will find sixty good females to be sold with records as high as 26 pounds butter in seven days, and most of them bred to a 33.31-pound son of the great King Segis, or to a son, a full brother or a grandson of May Echo Sylvia, or to several grandsons of the world's greatest sire, King of the Pontiacs. The sale is rich in the blood of the families that hold the world's records for both milk and butter. Every animal will be sold regardless of value at just what you are willing to bid. The sale will start at 12.30 o'clock sharp. See the advertisement and send for catalogues to R. W. E. Burnaby, Jefferson, Ontario.

Sale Dates.

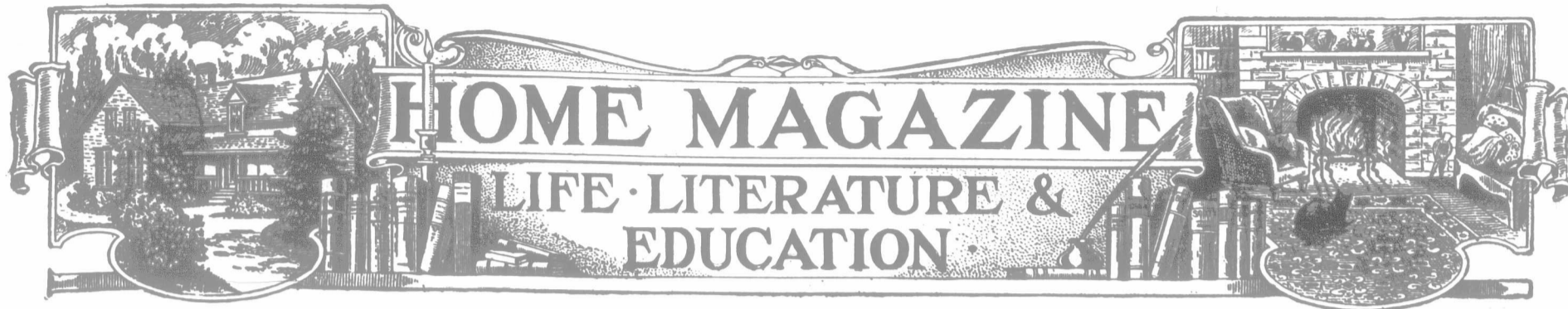
April 26.—J. E. Arnold, Grenville, Que.; Holsteins and horses.

May 8.—Southern Ontario Consignment Sale Co., Tillsonburg, Ont.; Holsteins.

May 9.—The York County Holstein Friesian Breeders' Club, at Richmond Hill; Holsteins.

May 23.—A. C. Hallman, R. 2, Breslau, Ont.; Holsteins.

June 14.—New England Ayrshire Club Consignment Sale, Springfield, Mass.; Ayrshires.



Spring Flowers.

(By Evelyn D. Bangay, in the "British Review.")

Little eager feet of the West Wind, run,
Haste, warm fingers of the climbing sun
Your mother now has cast away her cloak
of tattered brown,
And soon will need the wearing of her
green Spring gown.

Broider it with many a primrose head,
Trim the kirtle with your nut-flowers red,
Garland it with marigolds, and all along
the hem
Twine your periwinkles blue, and stars of
Bethlehem.

Stud it with a hundred speedwell eyes,
Paint the fabric with your petalled dyes,
Heap it with fritillaries, and deck it every
way

Flag it with a fringe of catkin tails,
Strew it thickly with ground-ivy trails,
Cover it with gilliflowers, and all along the
hem

Twist your glossy buttercups and stars of
Bethlehem.

Little eager feet of the West Wind, run,
Haste, warm fingers of the climbing sun
Your mother's going forth to meet the
shadow-shortening hours,
And her robes are all embroidered with
your dear Spring flowers.

Happy Hollow Garden.

[From "Happy Hollow Farm", by William R. Lighton, Musson Book Company, Toronto, \$1.25 net.]

Another of the waste corners now carries our best asparagus bed. Here ran one of the old rail fences, grown up with briars and pokeberry and careless weed. When we had the row cleaned out it was manured and plowed as deeply as the plows could be sunk, then trenched and manured again and worked over and over. Laura set the young crowns, —a quarter of an acre! She wouldn't have help, for that bed was to be one of the permanent assets of her house-keeping.

That was four years ago. Are you fond of asparagus? Did you ever have all you wanted? . . . That store asparagus—shucks! Pale, listless, stringy stuff, spindling and wilted, with only a little nubbin at one end that is fit to eat, and you have to make a nuisance of yourself at the table sucking even that little bit of "goody" out. That's no way.

When we have asparagus for dinner, it's cut late in the afternoon, so it may go on to cook before the fresh, snappy crispness has gone out of it. Cutting the mess is my job. The thin, thready sprouts don't go into the basket; they're left on the ground. What I'm after is the lusty, vigorous shoot, thick as your thumb, that's made its six or eight inches of growth since morning and is standing straight as a soldier. I don't thrust my knife clear down to the crown in cutting, as the market growers do, but cut close to the surface, well above all woody fibre. To the last fraction of an inch it's brittle and tender as a lettuce heart, and so full of juice that it drips. Now, you take asparagus like that; and let it be cooked just to the careful turn where it loses its raw taste without losing its firmness, and then let it come upon the table well drained and dressed with sweet butter and a dash of pepper and salt, and all piping hot—man, man, but that's eating!

Just one good spring dinner with asparagus aplenty pays in delight for all the work we've done on that bed—and we've had a hundred of those dinners since the bed was set. And that, mind you, was made out of an odd patch of ground that nobody had

ever thought worth working over. Our vineyard, too, stands on one of those redeemed corners; and last year we had canteloupe and watermelons on another —melons by the hundred. . . . We're fonder of our Rocky Fords than of anything else that comes out of the garden—unless it's a platter of plump, sweet, tender Country Gentleman Corn—or maybe a creamy cauliflower. I don't know. New potatoes and sugar peas aren't bad, if they're brought in right fresh from the vines without a chance to wilt. A dead ripe, meaty tomato sliced over a buttery, crisp lettuce-heart is pretty good, too, especially when you flatter yourself that you know how to mix a French dressing that's just the least bit better than anybody else's. And did you ever eat a sauce of tender young beets dressed with good butter and homemade peach vinegar creamed up together? You ought to try that. Oh—and I'm near to forgetting the cucumbers. Maybe you don't know how good a cucumber can be. . . .

There's only one place to get a real cucumber, and that's right fresh from a real cucumber vine in a real garden. Not any old cucumber vine will do; it must be a real one. The hill it grows in must have been built up to the very pink of perfection in soil; the seed that's planted in the hill must come from the cucumber aristocracy; and from the day it thrusts its first tender leaves out of the ground the plant must have the most unremitting care. It must be nursed, and watered, and forced to its quickest growth, and then be nipped back so that its whole succulence and vigor will go into a chosen small number of fruits. When those fruits are ready they'll be good to look at—straight and plump and just of a certain undecidable shade of tender green that isn't seen anywhere outside a garden. On the last day they'll grow

like soap-bubbles, between morning and evening, if you aren't watchful, they'll reach the line of perfection, leap over it, and be far on the downward road. If you want one at its best, you'd better mark the leaf it lies under and then go out every once in a while and take a peep. When you catch one just right, let me tell you you're a lucky man. Nobody will have anything on you at dinner that night.

It just does beat all what you can get out of the warm, mellow earth if you'll only forget the ignorant old notion that to work with the soil is a bitter contest against tremendous odds. If I felt like that, nothing could hire me to strike another lick at farming. I'd be all through, right now. But, feeling as I do, nothing could make me quit it. In sober truth, the ancient saying that men have been taking so hard, "in the sweat of thy brow", is a benediction instead of a curse.

We found that out in our third year at Happy Hollow. I think that was our critical time. In that year all fear passed. Instead of the grim will to make our farm succeed, we were beginning to enjoy the fullness of realization. That couldn't have happened until we had put aside our lurking fear, which is the most inexcusable form of ignorance.

High Cost of Living.

EDITOR "THE FARMER'S ADVOCATE":

Ways and means of reducing the high cost of living and of making the shortage of farm help adequate for the business of producing as much as possible meet one on every hand.

Much of the former is due to lack of thought, pride or else sheer laziness on the part of —yes, I'll say it—the mothers, wives and daughters of our land.

To give a case in point, a few days ago I heard a lady bemoaning the outrageous cost of fuel and the discomfort of not being able to afford enough to keep her home warm. I happened to know that she buys baker's bread for her family needs. A little cool calculation would cause her to realize that the extra price paid for that item alone (from 4 to 5 cents on a one and one-half pound loaf of bread) would save enough on the bread bill to keep the kitchen range abundantly supplied with extra fuel. By changing the mode of living she could make a living room of her kitchen during the cold weather. She could also curtail expense by using cheaper cuts of meat and other foods that require long cooking. Besides, the warmth might ward off serious sickness which not only reduces the earning power, but causes much needless anxiety, and none too welcome doctor and druggist bills. So much on what you might call the negative side of economy.

Now, on the positive side,—supposing she had trained her daughters to make their own dresses, (which in these days of patterns and hints in periodicals and manuals should be within the ability of any young lady) the clothing problem would in most cases be reduced sixty per cent. with the added distinction of individuality.

Then what young woman could not develop enough taste and skill to fashion a dainty and becoming hat at less than half the price of the "creation" at the milliner's? (Some of us by being careful of odds and ends and keeping in mind hints on renovation and cleaning could do much better than save half the cost.) It jars on me to hear a girl boast of an expensive hat when the man behind the pay cheque goes in overalls and smock while earning it.

Another item of needed thrift is in footwear. Let me say here, if the girls



Sweet Peas.

Given a rich soil to grow in, sweet peas form a screen like this. They may be got in all colors, but perhaps no species is sweeter than the old-fashioned "pink and white ladies."

under twelve ran barefoot in warm weather as their brothers do, and as most of their grandmothers did, the chiropodist might almost go out of practice, and the contact with mother earth would be a better tonic than somebody's much advertised nostrums.

Many a girl who envies grandma's velvety skin would fear to follow her healthy mode of living. She didn't know the various brands of toilet articles, had never seen a manicuring set, she never sampled ice cream, and as to a box of chocolates to upset her digestion she would be apt to advise the lad of her choice to set aside the dollar, more or less, it cost to help towards the home they hoped to make together in the future. Her pleasures were simple and inexpensive but none the less enjoyable.

Mothers wake up! Teach your daughters to place relative values on "things" and "ideals". Teach them to so appreciate the beauties of God's handiwork in design and coloring that so long as they are blessed with eyesight they have a source of delight which no picture show can give them. Take your children out in the twilight and have them gaze in childish awe at the wonders of the stars. To some children a star is only a point of light. Others see the twinkle, note the various colors and the grouping. For a trifling sum a microscope will reveal more beauties in the tiniest flower than they could ever guess at.

Don't imagine that reducing the high cost of living means reducing the joys of living; or lowering the plane of living. As our old readers taught us:

"Lowly living and lofty thought
Adorn and ennoble the poor man's cot."

It often saddens me that such a gem should be left out of the present school readers. Grandparents do you remember its noble sentiments?

"Better than grandeur, better than gold
Than rank or title a hundredfold
Is a healthful body,—a mind at ease,
And simple pleasures that always please,
etc."

Teach them to the grand children, and they may bless you for the beautiful thoughts long after the minister pronounces "ashes to ashes", etc., over your coffin lid.

We, may, like Sandy Fraser, see many laudable improvements on "the good old days", but a little of the spirit of thrift that characterized our ancestors would go a long way towards settling the problems that confront our nation "after the war". We women will have our vote, will we roll up our sleeves, put aside our frivolities and prove ourselves worthy of it?

MRS. J. M.

Noted Women.

Bertha and Barbara Krupp.

In very bad favor to-day, over a great part of the world, are the Krupp women, who own the vast works at Essen which have made the Great War in Europe possible. Some years ago a journalist wrote: "If these two young women should suddenly shut down their works, one or two nations, unable to procure arms, would of necessity have to keep the peace for some time to come." Needless to say they did not shut down the works; perhaps they felt it a patriotic thing to keep them going; perhaps they had an eye to the steady income from the manufactory, averaging a million sterling per annum. At all events the dire work of making cannon and munitions to destroy the lives of men went on, and the war came.

Bertha Krupp, the elder of the two and the richest woman in Europe, married Herr von Bohlen-Halbac, a skillful diplomat who distinguished himself as Secretary of the Prussian Legation at the Vatican, and who, by his marriage, gained the right to be known as Krupp von Bohlen-Halbac. Both of the young women have at all times devoted themselves to the great works which their father founded, making inspections at frequent intervals.

Scores of thousands of work people are employed in the workshops, and since the beginning of the war the work has gone on incessantly, night and day.

"War Queens of Europe," the Krupp sisters have been called, appropriately

enough as daughters of Alfred Krupp the "Cannon King."

The germ of the manufactory began in 1810, when the great grandfather, Friedrich Krupp, purchased a small forge in Essen and began manufacturing cast steel. Upon his death the son Alfred, then a lad of fourteen, was obliged to stop school and look after the little place, which even by 1845 employed only 122 workmen, and did little more than pay its way.

With the Great Exhibition in London, in 1851, however, came the psychological moment. A solid flawless ingot of cast steel from Essen, weighing 2 tons, caused a sensation in the industrial world, and from that time the Krupp works gained impetus.

Very soon the manufacture of guns began, and when Alfred Krupp died in 1887 and was succeeded by his son, Friedrich Alfred Krupp, a finished financier took the reins, and shipyards and coal mines passed into the ownership of the firm. By the time that this Krupp died, Nov. 22nd, 1902, the total number of men employed was over 40,000, considerably less than that of to-day.

There has been much speculation in regard to the disposition of the Krupp



Bertha Krupp von Bohlen-Halbac.

works, which will be demanded when the war is over and peace-settlements are in progress. Surely the war queens have many problems to face now that the great Hindenburg line is being swayed, day by day, and the grim menace of the Allies on all fronts tightens.

Hope's Quiet Hour

On The King's Service.

Whatever ye do, do it heartily, as to the Lord, and not unto men; knowing that of the Lord ye shall receive the reward of inheritance; for ye serve the Lord Christ.—Col. 3: 23, 24.

"The work of our hands—establish Thou it."

How often with thoughtless lips we pray? But He Who sits in the heavens shall say, 'Is the work of your hands so fair and fit That you dare thus pray?'

Softly we answer, 'Lord, make it fit,—The work of our hands,—that so we may

Lift up our eyes and dare to pray,
The work of our hands—establish Thou it.'

St. Paul was writing to bond-servants—slaves—when he gave the splendid counsel of our text. If even slaves should work heartily—"from the soul"—knowing that above their earthly master is the Lord Christ, how much more hearty should be the work of free men and women.

In these days of noble service many of us feel as if our lives didn't amount to anything. We seem to be plodding on in a circle, and each year is spent in doing things that are practically the same as last year's work.

Carey, the great missionary to India, exclaimed: "Undertake great things for God; expect great things from God!" After seven years of hard work among the heathen the only visible result of his toil

was one Brahmin converted. Yet he did great things for God, as even this world acknowledged. When that ex-cobbler died, the universities of England and Germany went into mourning, and his one convert was the first fruit of countless multitudes.

If you are quite sure you are doing the special work appointed for you by the King, and doing it heartily for Him, then you are certainly undertaking "great things for God." If He has put homework into your hands—work that is your plain duty to do whole-heartedly and happily—it would be "desertion" to slip away from your post in order to fill your hands and time with public business. St. John did not think his special, Christ-given task of caring for a poor, lonely woman (the mother of his Lord) was of less importance than the world-wide mission of the great apostle to the Gentiles. The King committed His mother to the tender care of the disciple whom He especially loved. Has He also chosen you for that most holy task? Remember His words: "Whosoever shall do the will of My Father which is in heaven, the same is My brother, and sister and mother."

A few days ago a friend sent me a little story, called "O. H. M. S." It describes how a man noticed that in the British Government offices all the paper used was stamped with those letters. A clerk might be writing a message of world-wide importance, or sending a trivial notice, but everything was "On His Majesty's Service."

That evening his wife was complaining about the uselessness of her life. Her days were filled with commonplace and never-ending work, and she felt that her life was not worth living. That night the husband had a vivid dream. He thought that his wife began her day by reading this text: "Whether, therefore, ye eat or drink, or whatsoever ye do, do all as On His Majesty's Service."

Then she began to sweep the dining-room, and her husband realized that the



Barbara Krupp.

broom was a staff of highest state, for on the handle, in letters of light, he saw the inscription: "O. H. M. S." The woman who does her daily work heartily, as to the Lord, and not unto men, makes servile labors shine, as George Herbert declared:

"A servant with this clause makes drudgery divine;
Who sweeps a room as for thy laws,
Makes that and th' action fine."

The watching husband saw those mystic letters, "O. H. M. S." shining in the clothes his wife mended and the dishes she washed. He discovered that even ordinary pots and kettles might be consecrated to God's service, and be holy as the bowls before the altar.—Zech. 15: 20, 21.

On awaking from his dream he told his wife about the matter and left her rejoicing because the King's business must necessarily be worth doing.

Then came a sudden overturn of all his old habits. In the routine of office-work he prepared to write out a glowing description of some property he wished to sell. But at the head of the paper he seemed to see, shining faintly, the letters of light, "O. H. M. S." Could he—

dared he! write under those letters anything exaggerated or untrue? It was the King's business, and the King's honor must be upheld by His official.

Then a letter from a debtor was opened. The account was over-due; but the writer pleaded for time, stating that his illness of his wife and the death of his child had caused financial difficulty. Intending to write a sharp rebuke, the creditor took up a sheet of office paper, and then stopped. Above his own name he seemed to see the letters gleaming: "O. H. M. S."

Then he locked his door and had a secret interview with his Lord, dedicating himself as a soldier on active service, and determined to let no claims of business or pleasure take precedence of the King's business.

Behind a modern army another army is needed. There are countless things to be provided, and those who knit socks, grow food, make sand-bags and mine-sweepers, gloves, etc., etc., have a chance to serve the Empire and the world. So, in God's army, there is work for everyone. King David set the priests and Levites "according to their offices in their service." Some were set over the service of song and ministered to God with singing—as some, now, sing in choirs.

Some were given the holy vessels of the sanctuary to keep in order, others made ointments of the spices. Some served God by cleaning, baking and frying (1 Chron. 23: 28-30) not forgetting the great work of standing every morning and evening "to thank and praise the Lord."

Shall we call the service our King has appointed "wearisome and commonplace drudgery?"

David appealed to his people to consecrate their service unto the LORD, and they "offered willingly." Then, we are told, "the people rejoiced, for that they offered willingly, because with perfect heart they offered willingly to the LORD; and David the king also rejoiced with great joy."

So it is still. The only glad service is that which is offered willingly. Christ does not need—nor want—"conscripts" in His army; and there is great joy in the King's courts when a soldier willingly enlists.—St. Luke 15: 7, 10, 32.

But let us be careful to follow our King in humility and obedience. When we ask the tremendous question: "Art thou for us or for our enemies?" His answer is: "Nay; but as CAPTAIN am I now come." It is not our place to make our prayers commands. It is not for us to demand God's co-operation with us in all we choose to do. Is the work of our hands always so blameless that we dare to pray, "establish Thou it?"

Barry Pain speaks of one who, "with patronizing nod shows that he approves of God;" and he asks this—"does God approve of you?" If God is to be our Mighty Ally we must obey His orders. We must keep our pledges sacredly, must return good for evil, must treat prisoners kindly (2 Kings 6: 21, 22) and seek to establish a righteous and lasting peace—a peace which will link together all nations in a universal brotherhood. One who thinks that any number of prayers can bind the King of kings to an unrighteous cause will discover that the Judge of all the earth must do right.

It is useless to spread forth the hands, and make many prayers, if "your hands are full of blood," for God says, "I will not hear."—Isa. 1: 14-20. If you take this course—making your actions give the lie to your words—"you shall learn in dumb amaze," as Barry Pain says,

"That His ways are not your ways,
That the mire through which you trod
Is not the high, white road of God."

We are not called to command, but to obey our Divine King,

"To Whom, whichever way the combat
rolls,
We, fighting to the end, commend our
souls."

DORA FARNCOMB.

Easter Gifts.

The "Quiet Hour" purse has been emptied, house-cleaned and filled up again. This week I received two dollars each from "A Country Woman" and "A Puschin Friend," and one dollar from "S. J. T." This money will provide Easter comforts for several sick and needy people—some of it, indeed, has already been spent.

HOPE.

The Windrow

Five hundred young women are now acting as clerks in the banks of Toronto.

Miss Mary Black of Fort William, has been elected to the presidency of the Ontario Library Association. She is the first woman to hold the position

Dean Pakenham of the Faculty of Education, University of Toronto, was elected President of the Ontario Educational Association, at the meeting of the General Association in Convocation Hall, Toronto.

A pneumatic-tired road skate, to be worn on the feet like ordinary roller-skates, has been invented by Chas. H. Clark of New York. He believes that roller-skating along roads will be a common form of locomotion in the early future.

Various electrical methods are now used in military hospitals for treating wounded men. They have been found of great value in relieving the pain of sciatica, neuritis, lumbago and kindred diseases.

Seventeen millions of "Active Service" Testaments and text-books in eighty-eight languages have been distributed among the fighting armies at the front.

It has been estimated that 10,000,000 war horses have been destroyed in the present war.

Whatever be his shortcomings Czar Nicholas II did four good things for Russia: (1) he called the Hague Conference, (2) he created the Duma, (3) he made prohibition of intoxicating liquor a law, (4) he resigned rather than go over wholly to the Germans, as his pro-German advisers would have had him do. For these things he will probably be allowed to live in peace in private life. He is, however, imprisoned for the present in the Alexandrovsky Palace of Tsarskoe-Selo. The palace is enclosed by a spiked iron fence about which soldiers appointed by the Duma are stationed. Within the palace are also the ex-Empress Alexandra and her five children.

A great variety of foreign plants is now being propagated and tested by the United States Department of Agriculture with a view to their possible cultivation in the country. Among these are: the Chinese pistache, whose nuts are used for flavoring; the jujube, a kind of fruit resembling dates; Chinese persimmons and chestnuts, and a sweet Chinese cherry. Among foreign vegetables under test are: the chayote from tropical America, which produces a pear-shaped fruit that tastes like summer squash and keeps fresh all winter, and the udo, a new salad plant from Japan. It is hoped that many of the new species will be found available for common cultivation in America.

Jack London's work was conspicuous for its distinctive, almost disdainful, originality, and many years ago he gave this advice to beginners:

"Study the tricks of the writers who have arrived. They have mastered the tools with which you are cutting your fingers. They are doing things, and their work bears the internal evidence of how it is done. Don't wait for some good Samaritan to tell you, but dig it out for yourself. See that your pores are open and your digestion is good. That is, I am confident, the most important rule of all. And don't fling Carlyle in my teeth, please. Keep a notebook. Travel with it, eat with it, sleep with it. Slap into it every stray thought that flutters up into your brain. Cheap paper is less perishable than grey matter, and lead pencil markings endure longer than memory."

The four great things in his opinion were Good Health, Work, a Philosophy of Life and Sincerity; but at the beginning and the end, before all and above all—Work. "Spell it in capital letters, WORK. Work all the time. Find out about this earth, this universe; this force and matter, and the spirit that glimmers up through force and matter, from the maggot to God-head."—The Australasian.

Miss Jeannette Rankin, member of Congress from Montana, voted as a

woman on the war resolution. As a woman, she may be honored for that. Hesitating long, permitting her name to be called repeatedly by the Clerk, she answered at last, and in a voice broken by a sob, "I want to stand by my country, but I cannot vote for war; I vote no." The inference is plain—Miss Rankin placed above country the immortal instinct, the eternal grievance, of women against war. Hers was the decision of emotion, of sex. The pathos of her action recalls the pitiful complaints of Hecuba, of Andromache, of Vassandra, against war's cruelty to women, in "The Trojan Women" of Euripides. When Euripides wrote, four centuries before Christ, the opposition of women to war, the deep and bitter consciousness of its terror and its outrage as it affected them, was already a theme of literature. Miss Rankin's vote and her emotion prove that the motive is still strong. It is as old as the world—nor do the men of the world honor women the less for their emotional attitude in the matter.

The incident which all must respect, is a new proof that the participation of women in public affairs may, if it is to be deemed an advantage, be one which is purchased at the price of less deliberation, less judgment, less patriotism in the settlement of our public affairs, and more emotion, more sighs, more tears.—Boston Transcript.

Only four years ago Georges Lvoff, the Premier of the new Russian Government, was told by the Czar that he could not be Mayor of Moscow because he was too liberal and democratic in his views as to how a Russian city should be governed. . . . Four years were not very long for Lvoff to have to wait before being able to tell the Czar that he could no longer be Czar because he was not liberal and democratic enough.—New York Times.

Professor Miliukoff, the new Foreign Minister of Russia, was banished to Siberia years ago for his liberalism as a member of the Faculty of the University of Moscow. Permission to return made him no more cautious, and he was banished from the country altogether. Then he came to the United States, and for some time was a professor at the University of Chicago. When he was again allowed to return from exile he became the editor of Reich, one of the most liberal journals in Russia.

The Ingle Nook.

(Rules for correspondence 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.)

"Hasten to laugh—to avoid tears".—The clever saying dropped into the pages of Paris Figaro, and how true it often is. We smile—that others may not see,—sometimes because we are too proud to wear our hearts on our sleeves, sometimes because we do not wish to inflict our blue moods or our troubles on others. Tears lie all about, and so we hasten to laugh.

It is perhaps well to remember that most other folk have burdens enough of their own, and that it would be rather unfair of us to try to superimpose ours as well. It is well to remember, too, that some to whom we might unburden ourselves might not thank us for our pains,—to the great majority we are most welcome when we are least dependent and most entertaining. But with the same breath it must be said that when one has a friend who is utterly and wholly sympathetic, as well when one brings tears as smiles, one must hold that one above all the closest and dearest.

The absolutely true friend is the one who is your friend when you sag as well as when you shine,—the one who feels the real you always, no matter what the face you wear. The real friend is the one who loves you when you are "off color" just as well as when you are at your best. One cannot always look pretty and vivacious. Off days must come. There are physical and mental upsets at times that take the brightness from the cheeks, and the sparkle from the eyes, and the lilt from the voice, and the spring from the step. Believe me the friend who is affected by these things and who loses interest and tenderness because of them is not a friend of the truest metal, nor can be until he or she has learned to place friendship on a different basis.

Unquestionably it sometimes relieves to tell a trouble or a sorrow; the very act of telling it seems a safety valve that

keeps one from going to pieces. You are filled to the point of weeping with a worry or loneliness; your hair needs washing and doesn't look as attractive as usual; there are rings about your eyes, and you have been too listless or too hurried to put on a pretty dress and collar;—in short you are looking all the way "taggy" and know it. In comes the real friend who cares not in the least for these things; you tell your little worry, perhaps weep your little weep, if you are of the weeping kind,—and you feel ever so much better. So does the friend, because he or she has the consciousness of being of real service to you, of proving the true friend in time of need.

—Yes, it is well to remember that for one thousand times it is wise to "hasten to laugh—to avoid tears."—But if you can find the friend who loves you in tears as well as in smiles, value that friend as your own life, feel that no devotion on your part, no sacrifice, no giving of self can be too great for so wonderful a gift. And, when all this has been said it is more than well to remember also that such things must work both ways. "Do unto others as you would that they should do unto you." So is friendship made perfect.

But why have I spoken of tears this bright spring morning? It must have been because of that old passage from Figaro. Springtime is no time to talk or to think of tears. Tears are down-tending, and everywhere else, in spring-time there is the urge upward. The sap is mounting in the trees; the earth-vapors are ascending towards the blue sky; the tree-tops are swelling with buds soon to burst forth in dancing leaves; the grass-shoots are going straight upwards in an infinity of little aspiring, heaven-indicating points; in the very waters of all the brooks there is a new gurgle of laughter.

What a joyful place all this old earth might be if there were no war.—But the day is approaching when there will be no more war. To-day, it is true, there are aching hearts everywhere because of it, some so numbed by bereavement that no heart is left for the gladness of springing flowers and the laughter of the brooks. For these I have no message of my own, but I want to pass on a word from a very interesting sermon I heard last night. The speaker, while commenting on the fact, that even as he spoke



Red Cross Work in Paris.

The famous Alcazar d'ete Music Hall in Paris has been made into a distributing center of the American fund for French wounded.

there were more souls passing out of bodies than at any time in the ages before this war, expressed his firm belief if we could see death as it really is it would lose its terrors. The body may be blown to pieces, but the real personality remains, just the same dear old self, but freed from limitations. And so he believed that there is really no death, and that our friends, whom we cannot see because our eyes are too much of the flesh to see the new spirit bodies, are often with us. He expressed the greatest interest in the experiments of Sir Oliver Lodge,—who is a saintly man as well as a great scientist—in trying to establish communication with departed friends, and referred to the book "Raymond", in which, in all sincerity, the scientist sets forth his reasons for believing that he has had some communication with his son, killed some months ago at the front. The speaker considered such research an absolutely legitimate field for enquiry, and looked forward to a time when, because of discoveries in it, death will be a much thinner veil than at present, and the whole purpose of the Universe better understood.

I give you this just as it came to me. Some of you will resent it, because some people always arise in arms against any new idea; some of you will find interest in it, and others—comfort. It is for the sake of these last that I have mentioned the matter. The book, by the way, is published by Methuen & Co., Essex St. W. C., London, England.

The hard part in such things is, of course, the long waiting. As George Meredith said somewhere "The principal part of faith is patience". So we must try to keep remembering that we are right in the midst of Eternity now (you remember how Pierre de Coulevain emphasized this in "On the Branch"), and that we shall keep on being in Eternity and that, therefore, we shall share in all the developments and joyful growths that are to come. So the thing that is left for us just now is to "sit tight", and do the best we can, and wait hopefully. No doubt this long, slow apprenticeship is the very thing we need, and in looking back upon it from the later years of Eternity it may not even seem to have been slow.

Now to a different subject: Here in the city there is great talk about making gardens on every foot of available land. Vacant lots are to be farmed out for the purpose, back-yard lawns are being dug up for it, school-children are being set to work wherever plots can be found. Perhaps the whole agitation will not amount to much, and yet in the words of the old Scotch proverb "Mony a mickle makes a muckle." At all events it will be good for the people to come in contact with the warm brown earth and sprouting baby-plants, and to learn what it means to feel that they are doing really productive work in the odd hours formerly devoted to golf or bowling.—Not that one would want to cut out all amusement; one merely wishes to say a word in defence of the real pleasure, as well as use, that may be found in gardening.

No doubt you in the country are also feeling the urge of the times, and are determining, likewise, to make use of all the plots of land. You can really do it so much more effectively than city people—or should be able to. You have more land; you have fertilizer—an absolute necessity; you know "how to go about it better"—or should know how, if you have lived up to your country privileges. One thing sure, every contribution to the world's food supply at this time counts. Potatoes and beans are valuable foods, and there are many people who can "do their bit" by growing them, who would find it difficult to contribute in any other way. Every bit of foodstuff grown in the vegetable gardens, even though used only in the home, releases just so much ore wheat etc., for the use of the armies in the field.

JUNIA.

Moths and Millers.

I have taken your paper for a number of years and now have come to you for help. I am enclosing two millers which I ask you to give a little advice on. I find them behind pictures, calendars, on lace curtains and places like that. Have found a great many of them during

my house-cleaning period. Please answer the following:

What do these millers hatch into? What should one do to get rid of them? Would also like to get a couple of cake receipts made with soda.

Grey Co., Ont. SUMMER LEE.

The name "miller" is usually given to the species of moths that come into houses, fluttering about the lights and nestling among clothes, upon which they frequently leave "dust" from the wings, hence, probably, the name "miller". All moths lay eggs, from which hatch the larvae, or "grub" stage, of the insect. These larvae have great appetites, and any damage that occurs is done by them. Not all the "millers", however, that drift into the house on mild spring evenings, are harmful to household things; many of them are really vegetable feeders, finding their food on grasses and leaves of plants and trees. Those that do the most damage in the house, eating woolen materials, feathers, etc., are very inconspicuous, dark gray in color and narrow of wing. The "buffalo bugs", whose larvae do the most damage of all, are really beetles, with hard wing covers blotched with whitish and brick-colored spots.

To protect clothes from moths, take each article that is to be packed away for the summer, wash it if necessary, or brush it well and hang in the bright sunshine, then put the articles in close paper bags (paper flour bags will do very well) and tie the tops so tightly that a moth simply cannot get in to lay its eggs. The articles may be packed in pasteboard or wooden boxes, if paper is pasted over all the cracks. Best of all is a cedar chest with an absolutely tight lid, as moths dislike cedar and keep

spring they bloom. I have a bulb bed that is a source of joy from the time the snow leaves until June. The snowdrops have been out two weeks now and the scillas and glory-of-snow are showing buds already. Most of the bulbs have at one time bloomed in the house. It is a long time since I visited the "Nook" and though many times I have intended writing I have had such a busy life that it has been put off. I always read the Advocate and especially the Home Department, and have found it helpful.

Brant Co., Ont. DESIRE TO HELP.

Many thanks for your timely assistance, "Desire to Help". You are very welcome again in our angle corner.—Junia.

Things to Eat.

Cream Cake.—Two eggs, 2 tablespoons water, 2 teaspoons baking-powder sifted with 1 cup flour. Beat the yolks of the eggs very light. Stir in two-thirds cup sugar, add the water and then the flour gradually, while beating. Lastly cut and fold in (do not stir in) the whites beaten stiff. Turn into a round pan and bake about 12 minutes in a hot oven. If preferred it may be made into a layer cake with jam or custard between and whipped cream on top.

Devil's Cake.—One-half cup butter, 1½ cups brown sugar, 2 eggs, 1 cup milk, 2 tablespoons cocoa, ½ cup water, 1 teaspoon vanilla, 2½ cup flour, 1½ teaspoons baking-powder, one-third teaspoon salt. Beat the butter until light and creamy; add the sugar gradually, then the eggs, lightly beaten. Cook the cocoa and milk and water together; when cool mix these alternately with the flour, salt and baking-powder, which have been

to thoroughly scald, then add the lard and salt. Thin with the buttermilk in which the soda has been dissolved. Beat the eggs separately and add them to the last. Have an iron frying-pan hot and greased, pour the batter in and bake in the oven until nicely browned. Serve piping hot with butter and syrup.

Oatmeal Sugar Wafers.—Beat an egg very light. Add ¼ teaspoon salt, ¼ teaspoon vanilla, ¼ tablespoon softened butter, ½ cup sugar, 1¼ cup rolled oats. Beat together thoroughly and drop from a teaspoon on to a buttered tin. Bake in a slow oven.

Dried Apricots.—When the fruit jars are empty in the spring, dried fruits, such as peaches, apricots and prunes are very acceptable. The following recipes for apricots will be found useful: **Jellied Apricots.**—Heat four cupfuls of cooked dried apricots and their juice to the boiling point. Add one cupful of sugar and stew for ten minutes; then add two tablespoonfuls of gelatin, softened in a quarter of a cupful of water, and two tablespoonfuls of lemon juice. Turn into a mold rubbed lightly with olive oil; stiffen and serve with apricot whip.

To make apricot whip, mix half a cupful of sifted, cooked apricot pulp, the whites of three eggs, half a tablespoonful of lemon juice and half a cupful of powdered sugar. Beat the mixture with a wire whisk until it will hold its shape, and serve immediately. If it is desired to keep it some time pile it into buttered ramekins, set in a pan of hot water and bake for twenty minutes in a moderate oven; in this case it becomes an apricot soufflé and may be served either hot or cold with plain stewed apricots.

The Scrap Bag.

A Rhubarb Hint.

Place a bottomless keg over a rhubarb plant and the stalks will grow quickly upwards towards the light, crisp and tender. To lessen the acid in rhubarb so that it will require less sugar, let it stand a few moments in boiling soda water after the stalks are cut up. About a teaspoon of soda to one quart of water is sufficient. This is better than adding the soda after the rhubarb is stewed.

Care of the Sink.

The sink should be flushed every day with boiling water to which a strong solution of washing soda should be added once a week. If very greasy a solution of caustic soda or lye should be poured down the sink pipe. These precautions will prevent plumbing bills.

A Baby's Bed.

A very convenient article where there is a baby is a tiny bed, mounted on wheels and covered with a framework top over which mosquito netting is stretched. This may be made at home by anyone who is handy with tools, and may be wheeled out on the verandah or into the garden at any time. The top admits plenty of air, while keeping the flies absolutely away.

Flowers in the House.

Cut off a few branches of lilac, syringa and plums, and put the stems in jars of water kept at a temperature of about 40 degrees Centigrade (about 104 degrees F.). The room should be kept at a steady temperature, rather warm, and water heated to 104 degrees F. should be added morning and evening. In a short time the branches should put forth buds and bloom.

Care of Bedrooms.

Healthful, restful sleep depends upon airy, odorless bed-rooms. It is not, perhaps, necessary to sleep directly in a draft—many people cannot stand that—but it is necessary that there should be a slight movement of air over one's face as one sleeps, to prevent a layer of moisture from the breath from accumulating so that it has to be breathed over and over. For this reason it is always well to have two windows, in different walls, in every bed-room, so that one may be left open a little at the bottom, the other at the top, and so provide for free circulation. The bed-room should be kept just as dustless as possible. For this reason hardwood or painted floors, that can be kept in good condition with a dustless mop, are best. One or two small rugs, preferably washable rag rugs, which are very pretty as woven to-day, will be



A Scene on the Arrival of a Hospital Train at Leicester. Although the face of the wounded Tommy is practically covered with bandages he is still able to manage the inevitable cigarette.

away from it. Moth-balls or crystals, that may be bought in a drug-store, are useful for placing in trunks or boxes, but give an unpleasant odor to the articles, which must be well aired before they can be worn again.

If "buffalo bugs" get into carpets, etc., saturation with gasoline is the best remedy, but this must be done with doors and windows wide open; and no fires or lights near, otherwise there is danger of explosion.

About Hyacinths.

Dear Junia.—In to-day's Advocate I noticed a question asked re hyacinths blooming the second time. A year ago I had several fine hyacinths in bloom and as I had no place in the garden I could very well put them in the spring. I left them in the pots set them under a cedar hedge and left until fall, when I re-potted them, treating as I had the winter before by placing them in the dark, etc. Some I placed in a north window and some in a west. On bringing them to the light, the ones in the north window had longest flower stalks. They all bloomed this winter again and had fine flowers, though perhaps not quite as fine as the first winter. As a rule I put the bulbs in my bulb bed in either the spring or next fall and the following

passed through a sifter. Beat thoroughly, and add the vanilla last. Bake in one layer or in two, which may be put together with filling.

Southern Rice.—Wash half a cup of rice until the water runs off clear. Drain well. Put 3 cups boiling water in a double-boiler, with a little salt. It should be boiling violently before the rice is put in. Keep closely covered and when the water has boiled out the grains will be soft. Leave in the boiler, uncovered, until it has steamed enough for each grain to stand by itself. Serve with cream and sugar. Raisins may be added to the rice if preferred.

Banana Pudding.—One cup flour, a pinch of salt, ½ cup milk, two-thirds cup light brown sugar, 1 teaspoon baking-powder, 2 eggs, 3 bananas, juice of half a lemon. Sift the flour, salt and baking-powder into a bowl, heat and add the eggs, then add the milk so as to form a light batter. Peel, scrape and cut the bananas into slices, squeeze the lemon juice over and let stand 10 minutes. Grease a baking-dish, pour the batter into it, then put in the fruit and sprinkle with sugar. Bake in a moderate oven for half an hour and serve with a hot, sweet sauce.

Corn Bread.—One pint cornmeal, 1 teaspoon salt, ½ pint buttermilk, 1 teaspoon lard, ½ teaspoon soda, 2 eggs. Pour over the meal enough boiling water

quite suff when of or mauve nishings s than heavy or voile room with everything a can of of the wash place a v terials in pictures b wary abo should ne junk not v Better bur with it.

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BY J. W.

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BY FRANCIS

Hunting loved by t before the co into the co It afforded excitement hunter is fo to the anim Indians dep Many str told to thi but of thos so human a actual occu One day hunting, w that he mig home. Be

quite sufficient. The rugs are prettiest when of solid color,—pink, blue, green or mauve,—with white warp. The furnishings should be light and airy rather than heavy and "stuffy." Muslin, scrim or voile curtains are best. Supply the room with plenty of good towels, soap and everything necessary for the toilet, keep a can of cleaning powder in the bottom of the washstand for cleaning the crockery, place a work-basket and mending materials in a convenient place, but let the pictures be few and choice, and be very wary about bric-a-brac,—the bed-room should never be made a storehouse for junk not wanted in the rest of the house. Better burn the stuff at once and be done with it.

The Beaver Circle

It's Hard to Wait For Summer.

BY J. WALTER BRIGGS IN PICT. REV.

I've waited all the long and weary Winter, And wished the snow and ice would go away;

I've watched each tree and bush upon the hillside,

And waited for the birds to come and stay.

It's mighty hard to have to watch the snow-drifts

Pile up across the road and on the hill;

It's mighty hard to see the ice afreezing 'Till all the lakes and brooks are lying still.

There ain't much one can do out here in Winter,

'Cept coasting down the hill and skating some;

I wouldn't give a cent for all the sleigh-rides;

I wish old Summer'd hurry up and come.

I want to hear the birds sing in the pasture,

And know the brooks are rushing down the hill;

I want to see the trees all white with blossoms;

I want to go and fish down by the mill.

I know a place down there below the wood-lot,

Where trout so big and shylike always hide;

The pool is deep and overhung with alders—

You can't get near it only on one side.

I'll wait with all the courage I can muster—

It's hard, I know, but boys should not complain;

I'll get my fishing-tackle out and ready

For Summer when she comes along again.

Little Bits of Fun.

Mother.—Henry, does your ear ache?
Henry.—No, mother. Mother.—Then why have you put cotton wool in it?
Henry.—Well, you know, mother, you keep on telling me that I learn so little because what goes in at one ear comes out of the other, so I've plugged the other one up.

A certain father who is fond of putting his boys through natural history examinations is often surprised by their mental agility. He recently asked them to tell him, "What animal is satisfied with the least amount of nourishment?" "The moth!" one of them shouted confidently. "It eats nothing but holes."

"One Touch of Nature."

BY FRANCIS LA FLESCHÉ IN THE SOUTHERN WORKMAN.

Hunting black bear was a sport much loved by the Osage Indians in the days before the coming of the white settlers into the country west of the Mississippi. It afforded them not only the thrill and excitement of the chase, of which every hunter is fond, but it also added largely to the animal food supply upon which the Indians depended for their living.

Many strange and interesting tales are told to this day of black-bear hunting, but of those that I have heard not one is so human as the following, which was an actual occurrence:

One day a man, noted for his skill in hunting, went out in search of black bear that he might add to the food supply of his home. Being familiar with the haunts

and the habits of the animal the hunter soon found signs, and as he cautiously looked about he saw a female bear in a large tree busily gnawing at a hole in the trunk. The man quickly raised his gun and took aim but he was suddenly seized with an irresistible desire to see what the creature was doing.

After scratching and biting at the edge of the hole for some time the bear thrust in her paw and in a moment quickly withdrew it. She put something into her mouth and smacked her lips with apparent delight and satisfaction. Then she suddenly scrambled down to the ground, and with an ambling gait disappeared in a low bush.

The hunter brought the butt of his gun to the ground and waited to see if the bear would return. He had not long to wait, for she soon reappeared with two cubs on her back. On arriving at the foot of the tree the bear shook the cubs down, then seizing the larger one with both her paws she put him up against the trunk of the tree as high as she could reach. The youngster seemed to understand what was expected of him, for he went up the tree with the agility of a cat and took a seat on a limb close to the hole. Then the mother picked up the younger one and held him against the tree. He clutched the bark tightly but, whether out of mischief, deliberate disobedience, or lack of common bear sense, he would not move. After waiting a few moments the mother lifted a paw and gave the little imp a whacking spank, which, perhaps, was not the first he had ever had, then up he went in as lively a manner as had his brother and took a seat close beside him. The mother followed and with eager haste thrust her paw into the beehole, for such it was, and drew out a piece of honey. She carefully removed the bits of bark and slivers sticking to it and then gave it to the oldest cub. He quickly seized it with both paws and began eating it, twisting his little head to one side and then to the other, and smacking his lips with genuine delight. The mother brought out another piece of the honey and offered it to the younger cub. The foolish little fellow looked at it first with one eye and then the other, then slowly he stretched out both paws to take the honey with the tips of his claws and dropped it. With a start he looked down and watched intently the spot where the honey struck as though wondering why it should fall. A change of expression came over the face of the mother, which the older cub could not have failed to understand as indicating disgust and displeasure and which might be followed by some act of discipline. Then again the bear thrust her paw into the hole and brought out a choice bit. With a look of motherly forbearance she held it out to the little one. As before he looked at it a long time with one eye and then with the other, smelled of it and then cautiously lifted his paws, distending his claws as he did so, to take it gently, but the honey dropped to the ground. The look of affectionate patience in the mother's face turned into one of anger, she lifted her paw and gave the foolish little one a whack over the ear. He lost his balance and down he went sprawling to the ground.

Just at this moment the hunter stepped on a dry twig which snapped loudly as it broke, the mother bear took alarm and down she scrambled to the ground, followed by the older cub and then all three quickly disappeared among the bushes near by.

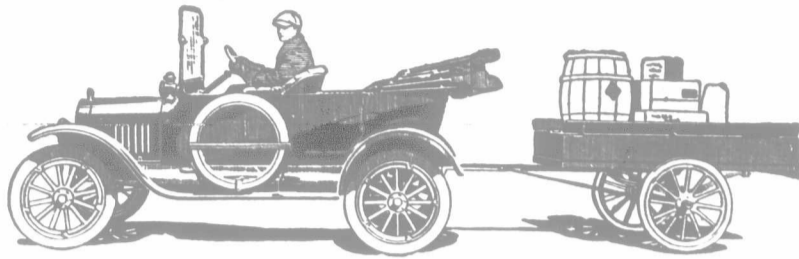
At dusk when the evening fires were lighted the hunter came home. He entered his wigwam and put his gun in its accustomed place, then took his seat by the fireside. The wife gave him a look of silent inquiry as she paused in her work of cooking the supper, which he solemnly answered by saying, "I am not going to shoot bears any more; they are human beings like ourselves."

Senior Beavers' Letter Box.

Dear Puck and Beavers.—I wrote twice before to your charming Circle and saw my name on the Honor Roll, but my letters were not in print. I passed my entrance when I was twelve years old and went to high school last year and liked it very much. Isn't this a dreadful war? I have one brother training in England. I hope he soon comes home as we miss him very much.

One year ago last fall our barns were burnt. We have them built up now, and

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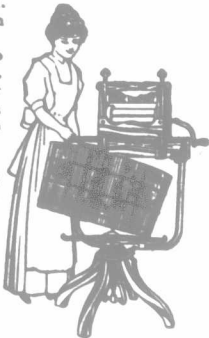
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H. D. LANCASTER, Bronson P. O., Ont.

THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either. So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking. You see I make Washing Machines—the "1900 Gravity" Washer.



Our "Gravity" design gives greatest convenience, as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it don't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 50 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

State whether you prefer a washer to operate by Hand, Engine Power, Water or Electric Motor. Our "1900" line is very complete, and cannot be fully described in a single booklet. Drop me a line to-day, and let me send you a book about the "1900" Gravity Washer that washes clothes in six minutes.

M.N. Morris, Manager, 1900 Washer Company
357 Yonge Street, Toronto



Model "B" \$45

Compare the Tonal Values, the Cabinets, Mechanism, Conveniences and the Price of the



with any other sound-reproducing machine on the market and then render your verdict. The Phonola is a superior instrument—Canadian made—plays all disc records—and is priced at from

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Write to-day for free illustrated Catalog, and name of nearest dealer.

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The Pollock Mfg. Co., Ltd.
Kitchener, Ontario.

Cockshutt Corn Planter

Plants 2, 3, or 4 kernels, as desired. Sows in hills or rows. Send for new folder.

Cockshutt Plow Co., Ltd., Brantford

Please mention Farmer's Advocate

we have a large stock. I will close now hoping the w. p. b. has had its meal.
R. R. 1, Kirkton, Ont. CLARA NEIL.

Dear Puck and Beavers.—This is my first letter to your Circle and I hope to see it in print. I go to school every day, and I am in the senior fourth and expect to try entrance at midsummer. Our school just started to take the Farmer's Advocate at the beginning of the year and I think it is a lovely paper. Our teacher, Miss Hueston, has been at our school four years and proves a great satisfaction. In the winter time we have lots of fun, as our school is situated on a hill and the boys get a board and go down the hill very fast. Well, as my letter is getting long I will close with a riddle.

1. Why do Germans spell culture with K?
Ans.—Because Britain has control of the seas.
 2. Why is candy like a horse?
Ans.—Because the more you lick it the faster it goes.
 3. What goes through the water chink, chink, chink, but never takes a drink?
Ans.—A chain.
- MADGE HANNAHSON, (age 11).
R. R. No. 3, Thorndale, Ont.

Dear Puck and Beavers.—This is my first attempt to write to your charming Circle. I live on a farm not far from two villages, Appin and Glencoe, respectively. My brother and I drive every morning in the winter, if it isn't twenty or so below zero. I have four brothers and no sisters, my oldest brother being a soldier in England at present. I am in the middle, two being older than me and two younger. Well I must close now because my letter is getting too long, and I am getting sleepy, (I was out till eleven last night.)

I remain yours, hoping to be a Beaver if Puck's w. p. b. isn't very hungry.

ELIZABETH MACARTHUR, (age 13).
R. R. No. 4, Appin, Ont.

P.S.—Will some one write to me please. Discuss any subject which pleases you, from school up.

Dear Puck and Beavers.—I wrote to you some time ago but my letter was not in print so I thought I would try my luck again. I am about half a mile from school and I go every day. Our teacher's name is Miss Tribble. We all like her fine. I suppose every Beaver knows where Georgian Bay, and at the south of it is Nottawasaga Bay. I am going to tell you about Wasaga Beach. It is a great summer resort. I was up last summer. One morning we got up early, prepared a lunch and about ten o'clock we were ready to start. It was a very pleasant trip through the little towns and shady roads. We arrived in Stayner about twelve and stopped to see some friends, then we started off again and soon arrived at the beach. The gulls were flying about, people were in the water, and many others having lunch so we thought we would, too.

After we finished our lunch we went to Nottawasaga River and watched the people boating. Then we went along the paths seeing the cottages and people resting here and there. After several hours we went to the bay and watched the people bathing. Then we went to get the car, and started for home. A man was in the act of turning around, his car backed into the water, the hind wheels sank at once. Several cars were hitched on to pull it out, but when we left it was still in. It was a lovely trip home in the evening after such a delightful day.

I will close as my letter is getting long, wishing the Circle every success and I to become a member.

EDNA NOBLE, (age 12, Sr. IV.)
Shelburne, Ont.

Dear Puck and Beavers.—I have just finished reading the Beavers' letters, so thought I would write myself. My birthday was yesterday and I had a party. There were twelve little girls out of my class at school I was eleven years old. They left me very pretty presents, and we all enjoyed ourselves very much. Will close now with a few riddles and wishing the Circle every success.

A little house full of meat yet nobody can get in to eat. Ans.—A nut.

If coal costs \$15 a ton and wood \$8 a cord and I buy 11 tons what will they both come to? Ans.—(Wood and coal) ashes.
Fonthill, Ont. ALTA CLARK.

Our Junior Beavers.

Captain Kit's Cruises.
BY ELIZABETH H. RICHARDS.
When Captain Kit is telling yarns
To Tim and Ted and Polly,
About the "Crafty Christopher"
And all its cruises jolly,
His lively tales
Of chasing whales
In sunny southern seas,
Where dolphins play
Mid flying spray,
And waves dance in the breeze,
Set all their little hearts on fire—
To sail at once is their desire!
And Tim will be the captain,
And Ted will be the mate,
And Polly'll be the lookout.
Who sits aloft in state.
But when he tells of howling winds
To Tim and Ted and Polly,
And all the "Crafty Christopher's"
Adventures melancholy;
Of inky clouds,
And icy shrouds,
And waves that sweep the deck;
Of straining ropes,
And failing hopes,
And rocks that wait to wreck;
Then all their little cheeks grow pale,
And they decide that, when they sail
Tim will be the cabin-boy,
And Ted will be the cook,
And Polly'll be a passenger,
Tucked in some sheltered nook.

Junior Beavers' Letter Box.

Dear Puck and Beavers.—This is my first letter to your Circle. I hope to see my letter in print. I have several pets. Like a lot of the Beavers I am very fond of reading. My favorite books are "Nobody Cares", "Pollyanna" and others. We have a new teacher. Her name is Miss Hume. I am in the Junior Third class at school. My letter is getting rather long. I would like some of the Beavers to correspond, about my own age, (11) years old.

GRACE WHITEHEAD.
R. R. No. 4, Malton, Ontario.

Dear Puck and Beavers.—This is my first letter to your Circle. May I enter too? I have always been a silent reader and enjoy reading your letters very much. I go to school nearly every day. We live between the church and the school. Five minutes walking would take you to either. Our teacher's name is Miss Archibald. My brother and I are taking care of the school; he lights the fire and I do the dusting and sweeping. We go home for our dinner except when it is stormy. I enjoy reading books such as "The Lamplighter", "Shadow of Sing", "Bound to Rise", "David Copperfield", etc.

I wish some of the Beavers would please write to me. I will close for my letter is getting long.

OLIVE BUMSTEAD.
R. R. No. 4, Woodford, Ontario.

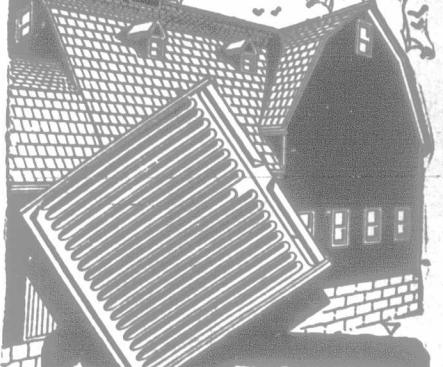
Dear Puck and Beavers.—I have been a silent reader of your page for five years, and have just found courage now.

I live on a farm and go to school every day. My teacher's name is Miss Ramsay and we all like her very much. For pets I have a cat called Darcy and a calf called Lily. But sometimes Darcy is very naughty and scratches me. I have read quite a few books. Some of them are: "Alice in Wonderland", "Black Beauty", "Beautiful Joe", and "The Black Rock".

Hoping this will escape the w. p. b. and wishing the Beavers every success.
Lucknow, Ont. MYRA McDONALD.
P. S.—I would like some of the Beavers to write to me.

Dear Puck and Beavers.—This is my first letter to your Circle and I hope to see my letter in print. I go to school every day. Our teacher's name is Miss A. V. Huston. We like her fine. We have had school fairs for four years. Last

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American School of Music, 73 Lakeside Building, Chicago

year we had a parade and took first prize. Well as my letter is getting long I will close with riddles: What is the lightest city in the world? Ans.—Cork.
2. What is it that turns yet never moves? Ans.—Milk.

ELMA E. FITZSIMMONS, (age 11).
R. R. No. 4, Thorndale, Ont.

Dear Puck and Beavers.—This is my second letter to your interesting Circle. My father has taken the Farmer's Advocate for a number of years and he says he would rather do without any other paper than the Advocate. For pets I have a dog whose name is Watch; he will draw me on the sleigh. We had a school fair at Appin and I showed a bred-to-lay Barred Rock and I got a prize. I was intending to show a colt but I couldn't get it broken in time. I will close with a riddle: Why does a miller wear a white hat? Ans.—To keep his head warm.

MASTER CHARLES G. BOYD.
R. R. No. 1, Walkers, Ont.

Honor Roll: Clara Death, Myra Slow, Fred Burt, Cecil Coultres, Marjorie Irwin, Lera Munroe, Mavor Dorman, Annie Blair, George Mustard, Marjorie Richardson, John St wart, Ethel McMullin.

Current Events.

Hon. A. J. Balfour is to visit Washington to confer with President Wilson and his Government in regard to the war.

During the time from March 30 to April 10 two British hospital ships were sunk in the English Channel, the "Salta" by striking a mine, 52 persons drowned, and the "Gloucester Castle", torpedoed, from which all the wounded were saved. Two Spanish steamers were also sunk by German torpedo boats.

Col. Roosevelt has offered to raise an army division of 22,000 men as part of an expeditionary force to be sent at once to Europe.

Between April 12th and 14th the French brought down, along the Oise, 25 German airplanes.

Bolivia, owing to German submarine attacks on neutral vessels, has severed diplomatic relations with Germany. Denmark also is incensed at the submarine policy.

Reports increase of a mutinous spirit against their officers among German prisoners and wounded taken at the front.

The "Battle of Arras", which has raged for the past fortnight, has resulted in the greatest victory yet gained by the Allies. At its opening by Gen. Haig's forces, the Canadians, under leadership of Maj. Gen. Sir J. Byng, were given the post of honor, and on April 9th, Easter Monday, they covered themselves with glory by capturing the important Vimy Ridge, taking 4,010 prisoners and several guns out of a total of 15,000 prisoners and 166 guns taken during three days' fighting over an extended line. The bombardment in this terrible fighting is said to have been the most terrific the world has ever seen. Earlier in the war Vimy Ridge cost the French 100,000 men. The British troops have now crossed the Hindenburg Line, 7 miles southeast of Arras, and British forces are closing on Cambrai, while St. Quentin is the immediate objective of the French. Latest reports state that Lens has fallen to the British, but that its chief buildings and factories were destroyed by the Germans before evacuation.

A Modern Legend.
BY JEAN KNOX.

A booklet, "A Modern Legend", dedicated to the Canadian Expeditionary Forces, and devoted to a campaign for things "made in Canada", better rural school conditions, etc., is being sold at 50 cents a copy, all profits going to Red Cross work. Address, Mrs. C. H. MacNish, Lyn, Ont.

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Rack cured in bags at 1 lb. per bus. less than in crates		Lyman's Grimm.....	80c. lb.
O. A. C. No. 3 Oats.....	2.00	North-West Grimm.....	75c. lb.
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Banner Oats, unregistered	1.20	O. A. C. 21 Barley.....	\$1.80 & \$1.85
Yellow Russian Oats.....	1.30	Rape (Dwarf Essex).....	12c. lb.
Potatoes—Irish Cobbler.....	4.50	Hairy Vetch.....	18c. lb.
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Knew His Business.—Mrs. Smith hired a Chinese servant, and tried to teach him how to receive calling-cards. She let herself out the front door, and when the new servant answered her ring she gave him her card. The next day two ladies came to visit Mrs. Smith. When they presented their cards, the alert Chinaman hastily compared them with Mrs. Smith's card, and remarked as he closed the door: "Tickets no good; you can't come in."—Los Angeles Times.

The Usual Program.—Punch once had a scene in which a district visitor is shown entering the cottage of a poor woman. The visitor is evidently new to the business and somewhat embarrassed. The cottager says to her: "I'm quite well, thank yer, miss; but I ain't seed you afore. Y're fresh at it, ain't yer, miss?" "I have never visited you before, Mrs. Johnson." The woman dusts a chair. "Well," she says, "yer sits down here, an' yer reads me a short Psalm, yer gives me a shillin', and then yer goes!"—Punch.



Condensed advertisements will be inserted under this heading at 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 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 advertisements inserted for less than 50 cents.

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RED-TO-PAY STRAIN OF WHITE Leghorns, White Wyandottes, Barred Rocks, Single-Comb Reds have paid us—they will make you money; 800 birds in our pens now, all healthy, vigorous stock, all on open range. Strong fertility. Write for prices on eggs and chicks. Not a male bird on our farm whose mother had a record of less than 224 eggs in 12 months. Females equally as good. Conestoga Egg Farm, Arthur, Ontario.

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EGGS FOR HATCHING, SINGLE-COMB Brown Leghorns, heavy layers. \$1.00 per 15; duck eggs, \$1.00 per 10. H. W. Thur, Elora, R. R. No. 1, Hedge Row Farm.

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The Ambitious Guest.

BY NATHANIEL HAWTHORNE

One September night a family had gathered round their hearth and piled it high with the drift-wood of mountain streams, the dry cones of the pine and the splintered ruins of great trees that had come crashing down the precipice. Up the chimney roared the fire, and brightened the room with its broad blaze. The faces of the father and mother had a sober gladness; the children laughed; the eldest daughter was the image of Happiness at seventeen; and the aged grandmother, who sat knitting in the warmest place, was the image of Happiness grown old. They had found the "herb, heart's-ease," in the bleakest spot of all New England. This family was situated in the Notch of the White Hills, where the wind was sharp throughout the year, and pitilessly cold in the winter—giving their cottage all its fresh inclemency, before it descended on the valley of the Saco. They dwelt in a cold spot and a dangerous one; for a mountain towered above their heads, so steep that the stones would often rumble down its sides, and startle them at midnight.

The daughter had just uttered some simple jest, that filled them all with mirth, when the wind came through the Notch, and seemed to pause before their cottage—rattling the door, with a sound of wailing and lamentation, before it passed into the valley. For a moment it saddened them, though there was nothing unusual in the tones. But the family were glad again, when they perceived that the latch was lifted by some traveller, whose footsteps had been unheard amid the dreary blast which heralded his approach, and waited as he was entering, and went moaning away from the door.

Though they dwelt in such a solitude, these people held daily converse with the world. The romantic pass of the Notch is a great artery, through which the life-blood of internal commerce is continually throbbing, between Maine on one side, and the Green Mountains and the shores of the St. Lawrence on the other. The stage-coach always drew up before the door of the cottage. The wayfarer, with no companion but his staff, paused here to exchange a word, that the sense of loneliness might not utterly overcome him, ere he could pass through the cleft of the mountain, or reach the first house in the valley. And here the teamster, on his way to Portland market, would put up for the night; and, if a bachelor, might sit an hour beyond the usual bed-time, and steal a kiss from the mountain maid at parting. It was one of those primitive taverns where the traveller pays only for food and lodging, but meets with a homely kindness, beyond all price. When the footsteps were heard, therefore, between the outer door and the inner one, the whole family rose up, grandmother, children, and all, as if about to welcome some one who belonged to them, and whose fate was linked with theirs.

The door was opened by a young man. His face at first wore the melancholy expression, almost despondency, of one who travels a wild and bleak road at nightfall and alone, but soon brightened up when he saw the kindly warmth of his reception. He felt his heart spring forward to meet them all, from the old woman, who wiped a chair with her apron, to the little child that held out its arms to him. One glance and smile placed the stranger on a footing of innocent familiarity with the eldest daughter.

"Ah, this fire is the right thing!" cried he, "especially when there is such a pleasant circle round it. I am quite benumbed; for the Notch is just like the pipe of a great pair of bellows; it has blown a terrible blast in my face, all the way from Bartlett."

"Then you are going toward Vermont?" said the master of the house, as he helped to take a light knapsack off the young man's shoulder.

"Yes; to Burlington, and far enough beyond," replied he. "I meant to have been at Ethan Crawford's to-night; but a pedestrian lingers along such a road as this. It is no matter; for, when I saw this good fire, and all your cheerful faces, I felt as if you had kindled it on purpose for me, and were waiting my arrival. So I shall sit down among you, and make myself at home."

The frank-hearted stranger had just drawn his chair to the fire, when something like a heavy footstep was heard without, rushing down the steep side of the mountain, as with long and rapid strides, and taking such a leap, in passing

the cottage, as to strike the opposite precipice. The family held their breath, because they knew the sound and their guest held his by instinct.

"The old mountain has thrown a stone at us, for fear we should forget him," said the landlord, recovering himself. "He sometimes nods his head, and threatens to come down; but we are old neighbors, and agree together pretty well, upon the whole. Besides, we have a sure place of refuge hard by, if he should be coming in good earnest."

Let us now suppose the stranger to have finished his supper of bear's meat; and, by his natural felicity of manner, to have placed himself on a footing of kindness with the whole family, so that they talked as freely together as if he belonged to their mountain brood. He was of a proud, yet gentle spirit—haughty and reserved among the rich and great; but ever ready to stoop his head to the lowly cottage door, and be like a brother or a son at the poor man's fireside. In the household of the Notch he found warmth and simplicity of feeling, the prevailing intelligence of New England, and a poetry of native growth, which they had gathered, when they little thought of it, from the mountain peaks and chasms, and at the very threshold of the romantic and dangerous abode. He had travelled far and alone; his whole life, indeed, had been a solitary path; for, with the lofty caution of his nature, he had kept himself apart from those who might otherwise have been his companions. The family, too, though so kind and hospitable, had that consciousness of unity among themselves, and separation from the world at large, which, in every domestic circle, should still keep a holy place where no stranger may intrude. But this evening a prophetic sympathy impelled the refined and educated youth to pour out his heart before the simple mountain sitters, and constrained them to answer him with the same free confidence. And thus it should have been. Is not the kindred of a common fate a closer tie than that of birth?

The secret of the young man's character was a high and abstracted ambition. He could have borne to live an undistinguished life, but not to be forgotten in the grave. Yearning desire had been transformed to hope; and hope, long cherished, had become like certainty, that, obscurely as he journeyed now, a glory was to beam on all his pathway—though not, perhaps, while he was treading it. But, when posterity should gaze back into the gloom of what was now the present, they would trace the brightness of his footsteps, brightening as maner glories faded, and confess that a gifted one had passed from his cradle to his tomb, with none to recognize him.

"As yet," cried the stranger, his cheek glowing and his eye flashing with enthusiasm, "as yet, I have done nothing. Were I to vanish from the earth tomorrow, none would know so much of me as you; that a nameless youth came up, at nightfall, from the valley of the Saco, and opened his heart to you in the evening, and passed through the Notch by sunrise, and was seen no more. Not a soul would ask—'Who was he?'—Whither did the wanderer go? But I cannot die till I have achieved my destiny. Then let Death come! I shall have built my monument!"

There was a continual flow of natural emotion, gushing forth amid abstracted reverie, which enabled the family to understand this young man's sentiments, though so foreign from their own. With quick sensibility of the ludicrous, he blushed at the ardor into which he had been betrayed.

"You laugh at me," said he, taking the eldest daughter's hand, and laughing himself. "You think my ambition as nonsensical as if I were to freeze myself to death on the top of Mount Washington, only that people might spy at me from the country round about. And truly, that would be a noble pedestal for a man's statue!"

"It is better to sit here by this fire," answered the girl, blushing, "and be comfortable and contented, though nobody thinks about us."

"I suppose," said her father, after a fit of musing, "there is something natural in what the young man says; and if my mind had been turned that way, I might have felt just the same. It is strange, wife, how this talk has set my head running on things that are pretty certain never to come to pass."

"Perhaps they may," observed the wife. "Is the man thinking what he will do when he is a widower?"

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"No, no!" cried he, repelling the idea with reproachful kindness. "When I think of your death, Esther, I think of mine too. But I was wishing we had a good farm, in Bartlett, or Bethlehem, or Littleton, or some other township round the White Mountains; but not where they could tumble on our heads. I should want to stand well with my neighbors, and be called 'Squire,' and sent to General Court for a term or two; for a plain, honest man may do as much good there as a lawyer. And when I should be grown quite an old man, and you an old woman, so as not to be long apart, I might die happy enough in my bed, and leave you all crying around me. A slate gravestone would suite me as well as a marble one—with just my name and age, and a verse of a hymn, and something to let people know that I lived an honest man and died a Christian."

"There now!" exclaimed the stranger; "it is our nature to desire a monument, be it slate, or marble, or a pillar of granite, of a glorious memory in the universal heart of man."

"We're in a strange way to-night," said the wife, with tears in her eyes. "They say it's a sign of something when folks' minds go a-wandering so. Hark to the children!"

They listened accordingly. The younger children had been put to bed in another room, but with an open door between, so that they could be heard talking busily among themselves. One and all seemed to have caught the infection from the fire-side circle, and were outvying each other in wild wishes, and childish projects of what they would do, when they came to be men and women. At length a little boy, instead of addressing his brothers and sisters, called out to his mother.

"I'll tell you what I wish, mother," cried he. "I want you and father and grandma'm, and all of us, and the stranger, too, to start right away, and go and take a drink out of the basin of the Flume!"

Nobody could help laughing at the child's notion of leaving a warm bed, and dragging them from a cheerful fire, to visit the basin of the Flume—a brook, which tumbles over the precipice, deep within the Notch. The boy had hardly spoken when a wagon rattled along the road, and stopped a moment before the door. It appeared to contain two or three men, who were cheering their hearts with the rough chorus of a song, which resounded in broken notes, between the cliffs, while the singers hesitated whether to continue their journey, or put up here for the night.

"Father," said the girl, "they are calling you by name."

But the good man doubted whether they had really called him, and was unwilling to show himself too solicitous of gain, by inviting people to patronize his house. He, therefore, did not hurry to the door; and the lash being soon applied, the travellers plunged into the Notch, still singing and laughing, though their music and mirth came back drearily from the heart of the mountain.

"There, mother!" cried the boy, again. "They'd have given us a ride to the Flume."

Again they laughed at the child's pertinacious fancy for a night ramble. But it happened that a light cloud passed over the daughter's spirit; she looked gravely into the fire, and drew a breath that was almost a sigh. It forced its way, in spite of a little struggle to repress it. Then starting and blushing, she looked quickly round the circle, as if they had caught a glimpse into her bosom. The stranger asked what she had been thinking of.

"Nothing," answered she, with a downcast smile. "Only I felt lonesome just then."

"Oh, I have always had a gift of feeling what is in other people's hearts," said he, half seriously. "Shall I tell the secrets of yours? For I know what to think when a young girl shivers by a warm hearth, and complains of lonesomeness at her mother's side. Shall I put these feelings into words?"

"They would not be a girl's feelings any longer, if they could be put into words," replied the mountain nymph, laughing, but avoiding his eye.

All this was said apart. Perhaps a germ of love was springing in their hearts, so pure that it might blossom in paradise, since it could not be matured on earth; for women worship such gentle dignity as his; and the proud, contemplative, yet kindly soul is oftenest captivated by simplicity like hers. But, while they spoke softly,

and he was watching the happy sadness, the lightsome shadows, the shy yearnings of a maiden's nature, the wind through the Notch took a deeper and drearier sound. It seemed, as the fanciful stranger said, like the choral strain of the spirits of the blast, who, in old Indian times, had their dwelling among these mountains, and made their heights and recesses a sacred region. There was a wail along the road, as if a funeral were passing. To chase away the gloom, the family threw pine-branches on their fire, till the dry leaves crackled, and the flame arose, discovering once again a scene of peace and humble happiness. The light hovered about them fondly, and caressed them all. There were the little faces of the children peeping from their bed apart, and here the father's frame of strength, the mother's subdued and careful mien, the high-browed youth, the budding girl, and the good old grandma, still kintling in the warmest place. The aged woman looked up from her task, and, with fingers ever busy, was the next to speak.

"Old folks have their notions," said she, "as well as young ones. You've been wishing and planning and letting your heads run on one thing and another, till you've set my mind a-wandering too. Now what should an old woman wish for when she can go but a step or two before she comes to her grave? Children, it will haunt me night and day till I tell you."

"What is it, mother?" cried the husband and wife at once.

Then the old woman, with an air of mystery, which drew the circle closer round the fire, informed them that she had provided her grave-clothes some years before—a nice linen shroud, a cap with a muslin ruff and everything of a finer sort than she had worn since her wedding-day. But this evening an old superstition had strangely recurred to her. It used to be said, in her younger days, that if anything were amiss with a corpse, if only the ruff were not smooth, or the cap did not set right, the corpse, in the coffin and beneath the clods, would strive to put up its cold hands and arrange it. The bare thought made her nervous.

"Don't talk so, grandmother!" said the girl, shuddering.

"Now," continued the old woman, with singular earnestness, yet smiling strangely at her own folly, "I want one of you, my children—when your mother is drest, and in the coffin—I want one of you to hold a looking-glass over my face. Who knows but I may take a glimpse at myself, and see whether all's right?"

"Old and young, we dream of graves and monuments," murmured the stranger, youth. "I wonder how mariners feel when the ship is sinking, and they, unknown and undistinguished, are to be buried together in the ocean—that wide and nameless sepulchre."

For a moment the old woman's ghastly conception so engrossed the minds of her hearers, that a sound, abroad in the night, rising like the roar of a blast, had grown broad, deep and terrible before the fated group were conscious of it. The house, and all within it, trembled; the foundations of the earth seemed to be shaken; as if this awful sound were the peal of the last trump. Young and old exchanged one wild glance, and remained an instant, pale, affrighted, without utterance, or power to move. Then the same shriek burst simultaneously from all their lips. "The Slide! the Slide!"

The simplest words must intimate, but not portray, the unutterable horror of the catastrophe. The victims rushed from their cottage and sought refuge in what they deemed a safer spot—where, in contemplation of such an emergency, a sort of barrier had been reared. Alas! they had quitted their security, and fled right into the pathway of destruction. Down came the whole side of the mountain in a cataract of ruin. Just before it reached the house the stream broke into two branches, shivering not a window there, but overwhelming the whole vicinity, blocked up the road, and annihilated everything in its dreadful course. Long ere the thunder of that great Slide had ceased to roar among the mountains, the mortal agony had been endured, and the victims were at peace. Their bodies were never found.

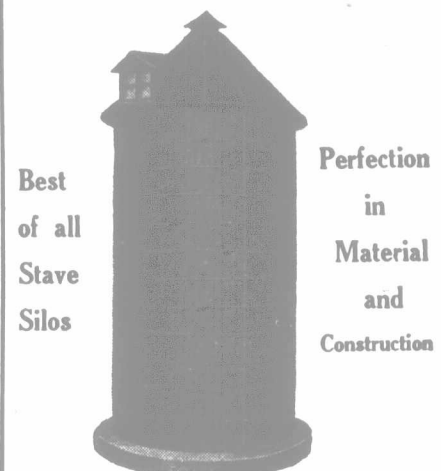
The next morning the light smoke was seen stealing from the cottage chimney up the mountain-side. Within, the fire was yet smouldering on the hearth and the chairs in a circle around it as if the inhabitants had but gone forth to view the

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devastation of the Slide and would shortly return to thank heaven for their miraculous escape. All had left separate tokens, by which those who had known the family were made to shed a tear for each. Who has not heard their name? The story has been told far and wide, and will forever be a legend of these mountains. Poets have sung their fate.

There were circumstances which led some to suppose that a stranger had been received into the cottage on this awful night, and had shared the catastrophe of all its inmates. Others denied that there were sufficient grounds for such a conjecture. Woe for the high-souled youth, with his dream of Earthly Immortality! his name and person utterly unknown; his history, his way of life, his plans—a mystery never to be solved; his death and his existence equally a doubt! Whose was the agony of that death-moment?

The Dollar Chain

A fund maintained by readers of "The Farmer's Advocate and Home Magazine" for the soldiers and all who are suffering because of the war.

Contributions from April 6th to April 13th:

Miss Standeven's Class Loyal Workers, St. James Anglican Church, St. Mary's, Ont., \$2; J. Mitchell, Nashville, Ont., \$10.

For Byron Military Hospital: Miss Standeven's Class, St. Mary's, \$5; A Friend, Brussels, Ont., \$5.
Amount previously acknowl-
edged.....\$4,311.75

Total to April 13th.....\$4,333.75
Total received for Byron Hospital,
\$269.50.

Kindly address contributions to "The Farmer's Advocate and Home Magazine," London, Ont.

A Letter From Shorncliffe.
The following interesting letter from Dr. Reason, who is in charge of Shorncliffe Military Hospital, has been kindly given us for publication by Mrs. A. T. Edwards, one of those in charge of relief work in this city:

Military Hospital,
Shorncliffe, Kent,
February 22nd, 1917.

Dear Mrs. Edwards:
Frequently when reading the home papers I see your name mentioned in connection with the Red Cross work, and I thought possibly you would like a few words from me to let you know how much we all appreciate over here the good work done by that excellent organization.

There is scarcely a soldier in any part of the great expeditionary forces which the Empire has called together who is not the better for the thoughtfulness of the various Red Cross organizations. The hospital of which I have charge is the central one for the whole of Kent, and under me I have many auxiliaries which are like wards to this one. Our work is almost entirely with sick and wounded from the front. We do not deal with Canadians alone, but with the soldiers from all parts of the Empire. For example, to-day I sent four patients to one of our auxiliary hospitals. One was a Canadian on whom I had operated for appendicitis; one a young Australian who had contracted pneumonia in the trenches and is now battling his way back to health; one a South African who had been wounded by shrapnel in the Adam's Apple and other parts of the body. I asked him where the piece of shrapnel had come out, referring to the wound in the throat. He laughed and said that he had coughed it up and produced the missile. The fourth was an Imperial soldier who had also come to grief over in France, and was suffering from shell shock. A more cheerful lot than the patients in the various wards it would be hard to find anywhere, and one hears practically no grumbling, which is in great contrast to a ward in peace time. The wounded men are always so appreciative of what is done for them, and we have had the pleasure of seeing many whose lives were hanging by a thread restored to health, and in many cases they have been able to return to France a second, and some even a third time.

All the patients in the hospital benefit from the Red Cross. On their arrival they are taken into the Canadian Red Cross Welcome Hut. There they are given refreshments without any expense whatever. On being taken to the wards

they are again the recipients of gifts of all kinds from the Canadian Red Cross. Cigarettes, tobacco, writing paper, games, cards, etc., are all at their disposal. If anything is needed we have only to apply to the Canadian Red Cross and our wants are soon supplied. Does the Padre require hymn books for his Sunday services, I have only to make the need known and the Red Cross supply it. In another case a young soldier who is having a long spell of sickness wishes some drawing materials and the Red Cross very kindly supply them. Even to-day I have received a letter from them informing me that they are about to erect a large recreation room for the benefit of the patients. This will fill a long-felt want, as we have been greatly handicapped by the lack of it.

A visit to any of our auxiliary hospitals would be of interest to anyone. Many a case which in a large institution would not do well has suitably recovered in one of our smaller hospitals. Nothing is too much trouble, providing the patients benefit thereby, and many a Canadian lad owes his life to the great care that has been lavished upon them by the people in charge of our smaller hospitals. Even to-day I have received two letters thanking me for having sent them to such a hospital. The English people seem unable to do enough for our Canadian soldiers, and much of our excellent results is attributable to the good work done by our English associates. A few days before Christmas I received the following request:

"Major Reason—We have so many empty beds. Will you please fill them with Canadians. Your men are a long way from home and we would like to do anything we can to make things happy for them."

Needless to say their request was complied with. The other day in one of our auxiliary hospitals two of the patients, a young Canadian and a young Australian, celebrated their 19th (?) birthday. The Commandant of the hospital had very kindly arranged for a fitting celebration of such an occasion, and when I mentioned to the Canadian Red Cross what was taking place they very kindly sent a generous contribution of apples, maple sugar, maple syrup, games, cigarettes, etc.

If I were to continue telling you about the good work of your excellent organization it would take an enormous letter to even touch upon the work being done. Even that done in this hospital and the auxiliaries would fill many a page, and if you could only visit this hospital and had I the opportunity to show you our books in which I have kept a record of the supplies received from the Red Cross, and also the record as to their distribution, those of you who have done so much would, I think, feel amply repaid for all your efforts, not the least of which was the thoughtful kindness which did so much to make Christmas a brighter and happier day for those whom the German and the German had placed as casualties in our wards.

Trusting that I have not wearied you with the length of this letter. With kindest regards to you and Mr. Edwards.

Yours sincerely,
CLIFFORD H. REASON.

Southern Ontario
Consignment Sales Co.

6th Annual Sale
HOLSTEINS
Tillsonburg, MAY, 8th, 1917

Write for catalogue to
R. J. Kelly, Sec.
Culloden, Ont.

Attention is directed to H. H. Howell's advertisement re O. A. C. 21 barley in this issue.

If the labor problem is preventing you from tiling your land correspond with J. J. Wallace, who is advertising a rebuilt Buckeye traction ditcher in this issue. He may help you to solve the problem.

Lieut.-Col. E. W. Leonard, London, Ont., was killed in action in Northern France.



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Sole Licensees and Manufacturers
London, Ontario.

Questions and Answers. Miscellaneous.

Registering Pups.

I have a registered Collie that was bred to a registered Collie dog. She had four black and white, and five yellow and white pups.

1. Is it possible for the pups to be pure-bred?
2. Could the different colored pups be from different sires?
3. If so, could they be registered?

W. M.

Ans.—1, 2 and 3. You had better get in touch with the secretary of the society where you register the dogs. It is possible they are all right.

Validity of Will.

1. Is a will legal when written by one of the family, signed by the father?
2. Man worth about \$30,000 (thirty thousand) and his wife is only left an annuity of \$200 (two hundred) a year and two rooms of the home, and the furniture only of those two rooms. Can she break such a will?

3. Two daughters left two thousand dollars each and no mention of a home. Daughters are unmarried. One daughter not capable of doing anything for herself left \$125 (one hundred and twenty-five dollars) per year, and no mention of a home. One brother gets home, furniture, all stock and land, which is about 100 head stock and 450 (four hundred and fifty) acres land. One married daughter gets five hundred dollars. Brother gets practically \$25,000 (twenty-five thousand) and pays annuity of \$200 and \$125, and rest of family get four thousand five hundred. There are ten thousand in bank. Is such a will lawful?

Ans.—1. Yes, if legal in other respects.

2. Perhaps not; but she need not accept its provisions. She can elect to take her dower instead—that is, one-third for life of the lands.

3. In view of all that is stated and suggested in and by your letter, we should think that there are ample grounds for contesting it. We cannot say definitely without full information of the facts and circumstances whether the will is to be regarded as legal and valid or otherwise, it depends upon questions of whether the testator was mentally competent to make a will, whether he was subjected to undue influence, or not, whether it was properly witnessed—and various other considerations, all of which should be carefully weighed by a solicitor after a personal consultation on the part of those interested in having the will set aside.

Gossip.

Laurie Bros., of Agincourt, who have a heavy producing herd of Ayrshires, materially strengthened their herd by stock purchased at the Southern Counties Ayrshire Breeders' Club sale, recently held at Woodstock. Lady May 2nd and her heifer calf were two animals purchased. This young cow is a granddaughter of the bull "Scottie," the noted producer of heavy milking heifers. In her two-year-old form Lady May 2nd qualified in the R. O. P. with over 8,000 lbs. of milk. She is a strong, typey cow, showing every indication of being a heavy producer. Amelia 2nd, a stable mate of the above-mentioned cow, was also added to the herd. Her milk record runs over the 10,000-lb. mark for a year. A couple of growthy, high quality heifers also fell to the bid of Laurie Bros.

Many Satisfied Customers.

In a recent communication Robert Miller, of Stouffville, Ont., writes: "I have sold a great many Shorthorns to old and new customers, but I still have 15 good young bulls, mostly fit for service, reds and roans. Cattle never were so scarce and dear, but I am selling them at about the usual prices. Your paper carries my only advertisement, and it would do you good to see the letters I get from customers whom I have never seen, telling me that they are more than satisfied. For the sake of the buyers, I should like to tell you of the cattle that I have sold in the past month, but I know you would object to telling all, and I do not like to stop in the middle of a story."



Touchy Corns and New Shoes

The comfort of *old* shoes may now be had with *new* shoes. Blue-jay makes it possible. No need to wince from new shoes nor frown. No need to undergo a period of pain.

Before getting a new pair of shoes be corn-free by using Blue-jay, gentle and certain. Then, should a new corn come later, Blue-jay will bring instant relief.

Most families have a package of Blue-jay Plasters at home, always ready. Relief is always handy, and instant.

Paring never cures. Harsh liquids are harmful. Blue-jay removes the corns permanently, roots and all. The first application removes 91 per cent. More stubborn cases require a second or third treatment.

Wear new shoes—any shoes—with complete comfort. Forget your feet. Blue-jay points the way. Know to-night.

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High Grade Government Standard Seeds

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No. 1 Mammoth Red Clover.....	\$15.00
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No. 1 Alsike Clover.....	13.50
No. 2 Alsike.....	12.50
No. 2 Timothy (this seed grades extra No. 1 for purity and germination).....	4.25
No. 2 Timothy (this seed grades No. 1 for purity and germination).....	4.00
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SEED GRAIN

Marquis Spring Wheat.....	\$ 2.40
O.A.C. No. 21 Barley.....	1.65
Banner Oats.....	1.25
O.A.C. No. 72 Oats.....	1.25
Golden Vine Peas.....	3.50
Crown Peas.....	3.50
Canadian Beauty Peas.....	4.25

SEED CORN

Leaming Fodder.....	\$ 1.75
Improved Leaming.....	2.00
Southern White Fodder.....	1.75
Red Cob Fodder.....	1.75
Compton's Early.....	2.75
Sanford White Flint.....	2.50
Golden Glow.....	2.40
Wisconsin No. 7.....	2.30
Pride of the North.....	2.00

Terms: Cash with order; bags extra, at 30 cents each.

We pay the freight on all orders of \$25.00 or over, east of Manitoba. Send for samples if necessary.

TODD & COOK, Seed Merchants
Stouffville, Ont.

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We can supply Choice High-Grade Seed as follows: Red Clover, Alsike, Alfalfa, Timothy, Sweet Clover, Oats, Barley, Buckwheat, Peas, (Corn on the cob and shelled), Mangel Sugar Beet, Turnips, Carrots, Butter Beans, Seed Potatoes, etc. Cotton-Seed Meal (Old Process), Oil-Cake Meal, Gluten Meal, Feeding Tankage, Bran, Shorts, Feeding Corn Meal, Feed Oats, Pure Linseed Meal and Flaxseed. Also a complete line of High-Grade Poultry Feeds. Write for prices.

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Dovercourt Road, Toronto, Ont.



STRAWBERRY PLANTS, including fall-bearing; Raspberries, Currants, Gooseberries, Grapes, Asparagus, Seed Potatoes, etc. Illustrated Berry Book and Price List Free. **H. L. McConnell & Son**, Port Burwell, Ont.

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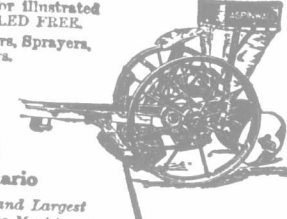
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NO WAR PRICES ON THIS CLOTHES WASHER

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Washes anything from finest lace to heaviest blankets or overalls equally well and without wear or tear—saves rubbing and washboard drudgery—can be used for rinsing, blueing or dry cleaning.

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Write for particulars, rates of pay, etc. Send 3c stamp. **Auto-Knitter Hosiery (Can.) Co., Ltd.** Dept. 302B; 257 College St., Toronto.



Questions and Answers.
Miscellaneous.

Wanting Telephone Service.

Is there a clause in the Charter of Rural Telephone Companies which enables an applicant for a telephone to force the company to install it? I made application more than a year ago and was promised it in three or four weeks, and now I am told they cannot promise it inside of three months.

Ontario. "HOPER."
Ans.—We are not aware of any such clause.

Burning Stumps, etc.

What months in the year may fire be put out, to burn off stumps and underbrush so that should it get to be uncontrollable and spread, the person setting the fire won't be liable for damages?

Ontario. G. H.
Ans.—The law makes no such clean-cut exemption from liability as you suggest. But we would refer you to The Forest Fires Prevention Act and The Fire Guardians Act (Revised Statutes of Ontario, 1914, chapters 241 and 242) for information upon the subject generally.

Drainage Problems.

When an engineer has made his award on a drain, where 5 parties are concerned, can anyone of them bring on the engineer before he has first called a meeting of those interested, when it requires cleaning out. Can the engineer compel those to pay for his services who have not been notified.

2. Can the owner of the farm that the drain runs through compel that the clay, thrown out of the ditch, be spread back from the bank.

Ontario. T. A. B.
Ans.—The party who called on the engineer without first notifying the other parties interested in the ditch has slightly exceeded his privileges and is therefore entitled to pay the service fees of the engineer. Section 35, subsection 1, of the Ditches and Water Courses Act is as follows: "If any owner whose duty it is to maintain any portion of the ditch neglects to maintain the same in the manner provided by the award, any of the owners, parties to the award, whose lands are affected by the ditch, may, in writing, notify the owner making default to have his portion put in repair within thirty days from the receipt of such notice, and if the repairs are not made and completed within thirty days the owner giving notice may notify the engineer in writing to inspect the portion complained of."

2. The clay removed from the ditch must not be left in such a condition as to afford an obstruction, but we doubt whether the owner of the farm can compel those digging the ditch to spread the clay in any particular way that may be to his liking.

Ontario Tobacco Soils.

EDITOR "THE FARMER'S ADVOCATE":
The favorable prices paid last year will probably result in a larger area being planted to tobacco next spring, and this may cause a tendency to plant on less suitable soil, thus reducing the quality and the market value of the product.

While the study now being made by the Tobacco Division of the tobacco-producing soils of Ontario is not yet complete, it has been noted that frequently a soil has the capacity of producing a poor quality of all classes of tobacco, but such adaptability is not favorable to the production of the highest quality in any one of the classes. To obtain best results, soil and climate must be suited to the special needs of a certain type of product.

In Ontario, the chief varieties of tobacco, so far recommended and principally grown are: White Burley, which is air-cured; Snuff, which is fire-cured; and Warne and Hickory Prior, which are flue-cured.

The soils giving the best results with White Burley are those known as "sandy" or "gravelly". They are rich in potash and humus, are of a greyish or brown color and are well-drained. This land is usually rolling. The lower lands have not given as good results as they remain wet longer in the spring and are frequently higher in clay content. The best crops of tobacco in Ontario last season were grown on very open soils, having sandy to gravelly subsoils to a depth of three to four feet, underlaid with clay.—Experimental Farms Note.


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Send to-day for Information Blank—fill it in, mail it, and we will select an Empire System suited to your needs and estimate its cost Free of Charge.

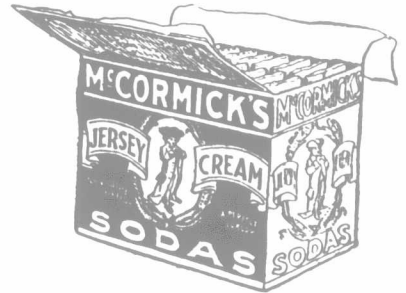


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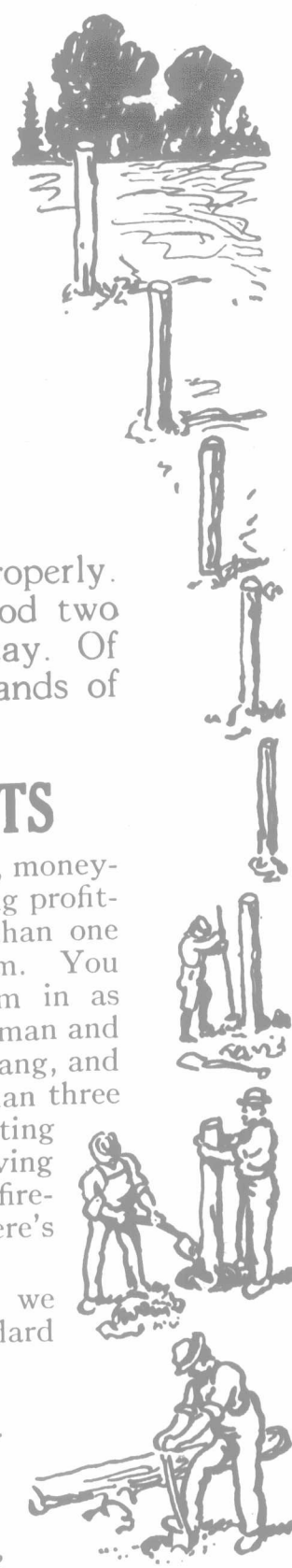
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Why? Because it's an honestly made fence, and it's easily put up properly. It needs no repairs and it gives true protection to crops and stock for a good two generations. It's metal all through—fence and posts and all, and it's there to stay. Of course that means a Standard Fence and Standard Steel Tube Posts. Thousands of our users will thoroughly endorse these statements.

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It has got the weight. It's all No. 9 gauge, full Government size, high-carbon, tough, springy steel made to our own formula. The galvanizing is thick and even. Nothing is ever skimped, undersized or under-weight about Standard Fence, and the tests we make guarantee you many years of splendid service, for we're proud of the Standard name and reputation.

The Standard Knot is our original invention and imitators cannot equal our latest improvement, a gradual curve that holds like a rock yet never chips or cracks the galvanizing. You may get a fence cheaper in first cost, but never cheaper to put up, or for service, than Standard.

THE ONTARIO AGRICULTURAL COLLEGE, GUELPH, LIKES THEM.

Dear Sirs:

I have your favor of the 2nd, regarding the steel tube fence posts which you sent us, and I am pleased to say that Standard Posts have given very good satisfaction indeed. We have used them almost entirely, in connection with our sheep pasture, and they have proved perfectly satisfactory for this purpose.

Yours very truly,

G. E. DAY.

Standard Tube and Fence Co.

THEY STAND UP UNDER HEAVY GRAPE-VINE LOAD.

Standard Tube & Fence Co., Ltd.

Dear Sirs:

We are in receipt of your letter of the 24th inst., and the contents are noted. In reply, we beg to say that the steel tube fence posts, which we purchased from you in March, 1915, have given us great satisfaction. We used these posts along with cedar posts, alternating them, and spacing them SIXTY FEET APART, and they have given us splendid service.

Very truly yours,

The Ontario Grape Growing & Wine Manufacturing Company

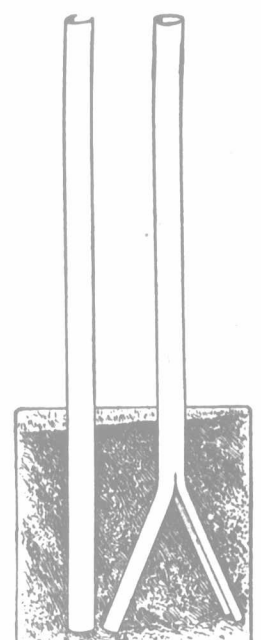
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Our business is built on real money-saving service, by giving you honestly made, labor-saving goods at one small profit. Just ask "Standard" users.

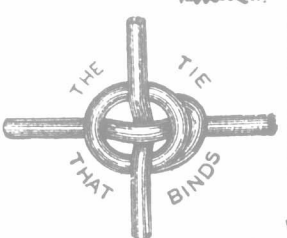
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Plain and Split (or self-anchoring)



COUPON

The Standard Tube & Fence Co., Limited
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Without obligating me in any way, I would like to have you send me your catalogue and prices.

Name.....

Address.....

L.F.A. 19,4,17.

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Seize this Export Market Opportunity

In 1916, Great Britain Imported 66,064,110 dozen eggs

TO that total Canada contributed 14,317,780 dozen—of which 7,363,290 dozen were United States eggs. Therefore Canada's net contribution was only 6,954,490 dozen domestic eggs.

CANADA'S eggs are of First Class quality and hold a high reputation in the British market.

THE present is a most opportune time to secure a permanent share of this trade.

TO do so, we should increase the output by at least 10 MILLION DOZEN.

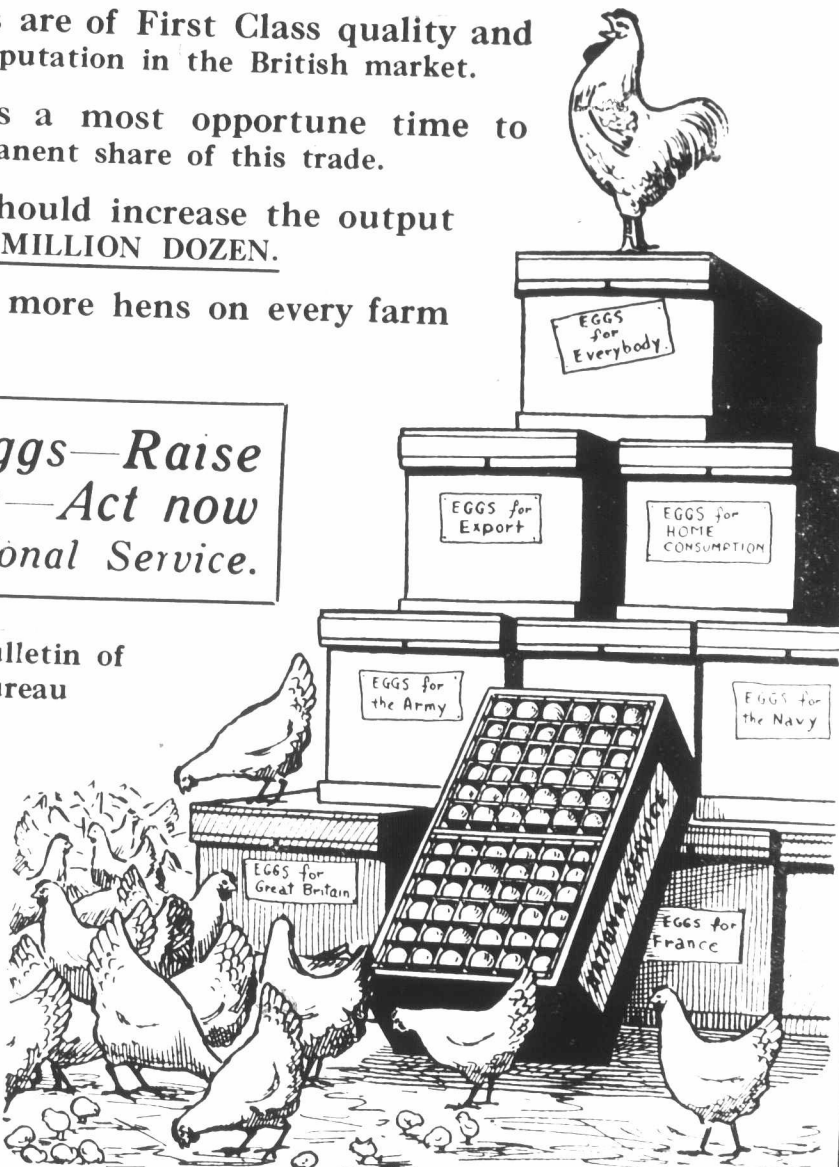
THIS means 15 more hens on every farm in Canada.

Set more eggs—Raise more chicks—Act now—This is National Service.

Ask for Poultry Bulletin of Information Bureau

DOMINION DEPARTMENT OF AGRICULTURE, OTTAWA.

HON. MARTIN BURRELL, Minister.



The Cost of Growing Potatoes.

EDITOR "THE FARMER'S ADVOCATE":

In potato-growing provinces like New Brunswick there is always more or less discussion as to what it should cost to grow a good crop of potatoes, and statements vary from as low as \$40.00 per acre to as high as \$125.00. Naturally there will be much variation in cost according to local conditions and especially to the ability of the land to produce without expensive fertilizing. It should be borne in mind that it will usually cost the potato specialist more to grow his crop than it will the farmer who follows mixed farming and makes his potato crop merely one of his many activities.

With a view to getting actual figures under average conditions in New Brunswick, a careful record has been made at the Dominion Experimental Station, Fredericton, for the past two seasons with an acre of land set apart for this particular purpose.

Neither rent of land nor depreciation of machinery was included in the calculation, for these two are items that are largely in the hands of the individual grower. As a general rule, however, it would be fair to charge as rent, 10 per cent. of the value of the land, and special potato machinery will depreciate from 25% to 50% per year if used steadily for ten days each season. In 1915, the depreciation of the potato digger alone, used at the Experimental Station, was \$6.00 per acre.

In 1915, the acre was planted with Green Mountain, Irish Cobbler and Empire State. Seed, cultural operations and harvesting cost in all \$67.93. Eighty barrels of 165 pounds each of marketable potatoes were obtained and sold at \$1.75 per barrel making a profit over cost of production of 90 cents per barrel. Seven barrels of culls were sold for \$3.50, so that the total profit for the acre amounted to \$75.50.

This land was rather wet naturally and during the very rainy weather of June and July was several times flooded, causing missed hills and inferior plants generally. This land was originally cleared many years ago, and after cutting hay for thirty years it was allowed to grow up to spruce, birch and alder. It was again cleared in 1913 and grew buckwheat in 1914.

In 1916, an acre was planted with Green Mountain seed. The total cost amounted to \$82.23, the increase over 1915 being due to high-priced seed, higher priced fertilizer ingredients and very dear copper sulphate.

One hundred and twenty barrels of marketable potatoes were harvested and could have been sold at \$2.25 per barrel, making a profit per barrel over cost of production of \$1.56 1/2, plus six barrels of culls at 50c., \$3.00, making a total profit of \$190.20.

Market price when potatoes were dug was \$2.25 per barrel. Later they could have been sold at \$3.25, but are held for seed.

This land grew hay for many years, and was broken up and grew potatoes with 750 pounds fertilizer in 1913, corn with 18 tons barnyard manure in 1914, oats without manure in 1915. This land is on a slope, fairly well drained and except for washing out slightly between the rows felt no bad effects from the June deluge. Experimental Farms Note.

The Big Quebec Sale.

Anyone interested in horses or Holstein cattle should read J. E. Arnold's advertisement in this issue. He is holding a large public auction at Grenville, Quebec, on Thursday, April 26, and buyers will have a splendid opportunity there to select Percheron, Clydesdale, Belgian, and Hackney stallions. Among them are prize winners and some with very fashionable pedigrees. The Hackneys are sired by the gold medalist, Ardermersy and the Thoroughbreds by Athol, the noted horse owned by the Government. In addition to those specially mentioned in the advertisement there are many others of different breeds not listed. The 60 head of registered and grade Holsteins are headed by Prince Xanthine Korndyke, sired by Sir Rag Apple Korndyke, and grandson of the noted Pontiac Korndyke. There are 18 females sired by this bull and many of the cows are bred to him. This is a splendid opportunity to procure stallions for the approaching season, and good dairy cattle.

APPLE TREES

THE BEST VARIETIES, all government inspected trees, at rock-bottom prices, delivered at your nearest railway station. You will never again, we believe, have an opportunity to buy selected trees at these low prices. Nurserymen and growers predict next year an advance of from ten to fifteen dollars per hundred. Place your order now, while we have a general assortment on hand.

E. D. SMITH & SON, LIMITED
WINONA, NURSERYMEN, ONTARIO

IRON AGE GARDEN TOOLS

Answer the farmer's big questions: How can I have a good garden with least expense? How can the wife have plenty of fresh vegetables for the home table with least labor?

IRON AGE Combined Hill and Drill Seeder solves the garden labor problem. Takes the place of many tools—sows, covers, cultivates, weeds, ridges, etc., better than old-time tools. A woman, boy or girl can push it and do a day's hard work in 60 minutes. 38 combinations. \$12.25 to \$35.00. Write for booklet.

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41 Symington Avenue, Toronto, Canada.

MORE HORSE-POWER if your teams are equipped with

Ventplex

These pads prevent Sore Shoulders and cure Gall Sores. Your dealer will supply you, or write BURLINGTON BLANKET CO., LTD., 783 KING STREET WEST, TORONTO, CANADA.

You can assure your family a

MONTHLY INCOME for LIFE

or assure yourself an income during your old age by means of an

Imperial Monthly Income Policy

Write for particulars now and name of The Farmer's Advocate. Also

Imperial Life Assurance Co. of Canada
Head Office: TORONTO

Men's Clothing for Sale

Get your new suit from Catesby's, London, England, for half what you pay local tailor. Best materials, style, fit guaranteed or money back. Write for free catalogue, self-measurement form and patterns. Address:

CATESBY'S LIMITED, Canadian Office
119 West Wellington Street, Toronto
Mention "Farmer's Advocate"

Seed Corn

White Cap Yellow Dent \$2.75 per bushel of 70 lb in cob (i. o. b.); cash with order; bags free.

GEO. B. LANGFORD,
Kent County, Kent Bridge, Ont

Vegetable Plants

Asparagus, Conover's Colossal, two years old 100, 60c.; 1,000, \$5.00; Early Cabbage, Jersey Wakefield, 100, 40c.; 1,000, \$3.50.
Other vegetable plants in season.

HEROLD'S FARMS
Beamsville, Ont. Niagara District

SEED OATS

O.A.C. No. 72 variety. A choice lot. Write for samples and prices.

W. R. DOUGALL
Hensall, Ontario

The Farm He Would Like.

EDITOR "THE FARMER'S ADVOCATE":

The farm that I would desire to manage would be one containing one hundred acres of high, rolling land, not more than one mile from a town and railway with the buildings situated back one-third the length of farm, a spring creek flowing across one corner, and a bush covering ten acres at the back; the soil, a clay-loam, with a subsoil composed of as much gravel as possible. This is my idea of an ideal farm.

I would choose a hundred-acre farm because if it becomes necessary, one man can successfully operate it. Some will doubt this but, with a boy during harvest, a diligent and industrious man will be able to keep his farm a model of thrift and neatness for the community in which he lives. This hundred acres would be fenced off into six fields, containing fifteen acres each, leaving ten acres for the bush which would be used for growing timber only. The field which the creek ran through would be left for a permanent pasture, the remainder would be under cultivation and cropped by a three-year rotation.

I would follow mixed farming to a certain degree, but specialize in breeding Holsteins. My plan would be to purchase seven female calves from registered stock. These would not be bred until they were almost two years old. I think the small cattle I have seen in this part of the country are due to the breeding of immature stock. I have known farmers to use bulls not a year old for breeding purposes. How could they expect thrifty stock? And yet the bulls which have been tried and proved reliable are sold for canners as soon as the owner needs a change to prevent inbreeding. If farmers who raise their cattle would buy these, they would soon see the advantage over the use of young bulls. Some of the farmers here breed their heifers when they are very little over a year old. This is a great mistake for it not only stunts the animal's growth, but weakens her constitution. A cow to be very profitable must have good digestive organs, so as to make the best use of feed.

I would have the heifers come in between two and three years of age, and milk for at least one year. Never milk for a shorter period, for after the second time they come in they will be inclined to dry at about the same time they did during the first milking period. If I had sufficient help on one hundred acres I would go in for dairying, but when working it alone I would milk only four of the seven cows and let the calves suck the rest. The males would be sold for veal at one month of age and pure-bred female calves purchased to take their place. These would be taken off the cows at six months and fed good succulent feed, but no grain until their frames were developed. They would now be bred as I have already described and sold just before they freshened.

I would also raise between ten and fifteen pigs every year. After the pigs are weaned they would be fed a certain quantity of skim-milk in order to keep them growing. Also other feed which at first would be largely composed of middlings. When about three months old, I would add to this pulped roots, and green clover in summer, bran taking its place during the winter, and a little ground grain which would be gradually increased. To finish the hogs, they would be fed largely chopped grain for morning and night. At noon a feed of sugar-beets or mangels would be given. I think no animal on the farm will give quicker returns than the hog, nor larger profits if fed the by-products of a dairy.

Poultry would also be kept on this farm. About one hundred hens would be all I could properly care for. These would be kept in a hen house instead of the stable, where a great many farmers have kept and are still keeping the poultry. But there has been a great improvement along these lines during the past two years. And we are beginning to realize more and more the importance of good poultry on the farm.

When chicks are first hatched I would feed them bread crumbs or rolled oats then small wheat with a mash of corn, and oats mixed with skim-milk, also ground bone and butter milk, with roots or green vegetables. When it came to fattening the cockerels, I would put them in a small pen, give them all the water

M A D E I N C A N A D A



The high record, trap-nested hen, the A. R. O. cow, the well finished steer, the well grown colt, the prize hog:

Whatever you raise that's a bit better than the ordinary, is worth an auto-photo-graphic record. And you can make such a record, with the data on the negative. It's a simple, permanent, inexpensive and almost instantaneous process with an

AUTOGRAPHIC KODAK

Catalogue, free, at your dealer's or by mail.



CANADIAN KODAK CO., LIMITED
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NO PRICE CHANGES

WE believe this is a good year for the fence user to buy fencing. From present indications wire will be higher, and fence will be so scarce as to be hard to obtain at any price. This condition may hold for several seasons. The wise man is buying liberally now. He is getting his fence at a reasonable price and also having the use of it to help him raise more and better crops while prices are high. At the same time he is performing a patriotic duty in helping to supply the nation with the food it so much needs.

THE PAGE WIRE FENCE COMPANY
LIMITED.

WALKERVILLE TORONTO MONTREAL ST. JOHN

and grit they wished, with all the feed they would eat. There is a great difference of opinion existing, regarding the proper ration to feed laying hens. I think different breeds require different methods of feeding and feeds. Therefore no definite ration can be used with success under all conditions. The Barred Plymouth Rock is my choice for general purpose farm fowl. Wellington Co., Ont. **SAM PAGE.**

DANGEROUS
as well as painful

Backache Neuralgia
Lumbago Rheumatism
Stiff Joints Sprains

Gombault's Caustic Balsam
WILL RELIEVE YOU.

Its penetrating, soothing and healing and for all Sores or Wounds, Felons, Exterior Cancer, Burns, Boils, Carbuncles and all Swellings where an outward application is required CAUSTIC BALSAM HAS NO EQUAL. Removes the soreness—strengthens the muscles. Price \$1.60 per bottle. Sold by druggists or sent by us express prepaid. Write for Booklet L.

The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

Scratches and Stocking

—Are prevalent in cold weather irregular work and overfeed in—ches both. A system tonic and blood purifier, such as

FLEMING'S TONIC HEAVE REMEDY will prevent these troubles and when developed, with Fleming's Veterinary Healer, (It will quickly cure them). Per box, \$1.

Fuller information in Fleming's Vest Pocket Veterinary Adviser Write us for a Free Copy

FLEMING BROS., Chemists
75 Church St., Toronto

KEEP THEM WORKING

A horse in the field is worth two in the barn. You can't prevent Spavin, Ringbone, Splint, or Curb from putting your horse in the barn but you can prevent these troubles from keeping horses in the barn very long. You can get

KENDALL'S SPAVIN CURE

at any druggists at \$1 a bottle, 6 for \$5, and Kendall's will cure. Thousands of farmers and horsemen will say so. Our book "Treatise on the horse" free. 115

Dr. R. J. KENDALL CO., Enosburg Falls, Vt.

Beat the high cost of leather

The price of all leather harness has gone up to unheard of figures, and the end is not in sight. This hits the farmer particularly hard on his work harness because it gets such rough usage.

Griffith's Team Outfit, including Giant Rope Traces, Giant Yoke Ropes, harness, lane straps, plow pairs, belly bands and billets, gives him a strong, serviceable work harness equipment at the low price of \$13.00 (\$14.00 west of Fort William)

Griffith's Giant Rope Traces will stand a tremendous amount of rough usage. They are as strong as leather and only cost about a quarter as much. Per set of four, \$4.50 (\$5.00 west of Fort William)

Griffith's Giant Yoke Ropes are becoming more and more popular. They wear well. Price per pair, with traces and slides, \$1.00 (\$1.25 west of Fort William)

Most dealers sell these specialties. If you can't get them from your dealer order direct. Our booklets will be interesting to read. Send for it.

G. L. Griffith & Son
68 Waterloo St.,
STRATFORD, ONT.

Questions and Answers.
Miscellaneous.

Working on Sunday.

I live on a small farm just outside a manufacturing town in Ontario. I am working at a munition factory during the week. My neighbor raises strenuous objection to me hauling wood from the bush on my own land and splitting same and doing what I consider other necessary chores about the farm on Sunday. Is there any law to prevent me doing this?
J. D.

Ans.—Under ordinary conditions you would be liable to be prosecuted for teaming wood on Sunday as it would be considered unnecessary work. However, in view of the fact that you are engaged six days of the week at the present time there are not many who would lay information against you for securing the week's supply of wood on the Lord's Day. At the same time we believe you would be liable in the eyes of the law.

Poorly Flavored Eggs.

I keep a flock of sixty well bred hens, and for some time back have been getting occasionally an egg which has a decidedly disagreeable odor and taste. Hens are healthy and have a clean house. They get plenty of grit and pure, clean drinking water and a ration of oats twice a day. Can you explain the strong taste of the eggs?
S. H.

Ans.—The egg shell is porous and will absorb odors which will affect the flavor of the egg. Certain things the hens eat will also affect the flavor of the eggs. For instance, if hens eat fish the eggs are liable to have a fishy flavor. Onions and similar substances affect the eggs. The flavor of eggs from hens which continually scratch in the barnyard is never considered to be as good as with eggs from grain-fed hens which have a clean, grass yard for a run. Eggs will contract an unnatural flavor if stored beside fish, onions, etc.

Inversion of Uterus.

I have a cow that freshened on March 15 and then on April 6 she had inversion of the womb. It protruded about 10 inches. I called the veterinarian and he returned the womb and applied a truss. The cause given was relaxation of the ligaments. What causes the ligaments to relax? How can I prevent it the next time? I have no roots but feed gluten feed, bran and oil cake besides all the clover hay she will eat. Would you advise keeping her to breed again? She eats well and averages 49 pounds of milk per day. Is it advisable to flush the womb?
R. J. E.

Ans.—The trouble may be caused by difficult parturition or may arise from no apparent cause. The womb should be washed in warm water before returning it, and then about one-half pint of tincture of opium to 7 parts warm water might be injected three times daily. It is advisable to leave the truss on for some time and to build the stall so as to elevate the hind parts of the cow a little higher than the front until danger of inversion is past. If the womb returns to place properly the cow may be bred in a month or two but on account of the ligaments being weakened the trouble may re-occur at the next freshening. Prevention would be to feed lightly on laxative feeds when the cow is due to calve and give raw linseed oil to keep the bowels open. Also have her on a raised stall when freshening.

This the Season to Preserve Eggs.

This is the time of year to preserve eggs for home use. About half of the eggs of the whole year are produced during March, April, May and June. Eggs laid at this season are the best for preserving.

Eggs to be preserved should preferably be infertile, and only a day old. They should also be clean, but not washed, as washing makes them porous allowing the solution to enter. The most successful and cheapest method of preserving is in water glass (sodium silicate). One gallon of sodium silicate, about 50 cents' worth, will, when added to 15 times as much water, which has been boiled and cooled, be enough to preserve 50 dozen eggs. The solution should be prepared and put in the vessels in a cool place, then the eggs added as they are gathered. There should be at least two inches of solution covering the eggs.

The Aylmer Sprayer will increase Your Yield of Fruit and Potatoes

This sprayer is past the experimental stage. It is used and endorsed by seven Governments. Its simplicity, durability, efficiency and power have made it famous.

The Aylmer is made of bronze. There is nothing to rust or get out of order. There is no packing to blow out, wear away, or cause trouble. The Aylmer is a superior machine in every way.

Aylmer

We supply pumps separately or mounted on the barrel, with iron or bamboo extension rods, also nozzles and hose to suit your needs.

Write to-day for our free illustrated bulletin which explains the size, capacity, price and equipment of the Aylmer Sprayer.

The Aylmer Pump & Scale Co. Limited
Aylmer Ontario
Also Makers of Farm Water Supply Systems



ATTENTION!
BIG SALE OF LIVE STOCK
Percherons, Clydesdales, Belgians, Standard-breds; also 60 Holsteins,
AT GRENVILLE, QUE., ON
THURSDAY, APRIL 26th, 1917

J. E. ARNOLD is offering by Public Auction his entire stock of 25 imported and registered horses, consisting of Percherons, Clydesdales, Belgians, Standard-breds, half-bred Hackneys and half Thoroughbreds.

In Percheron stallions there will be offered the champion, Loin 3901-99522, dark gray, and the noted prize-winner, Rosial L 3477-51645, black; Chancellor 3479-83536, beautiful dapple gray; Prospect 793, although up in years is in fine condition and gives good satisfaction in the stud. In Percheron mares, the champion, Marie 3932-106177, gray, due to foal in May to Loin; Hazelthorn 4502, and Roseline 4503, a matched pair of black half-sisters, 2 and 3 years old. Others in Percherons not mentioned.

Clydesdale stallions: Baron's Kid 9742, Pride of Eardly 9876, and Baron Aberdeen 16100, Kitty Macrae 31602-34474, Imp. mare, 6 years old.

In Belgians: Duc 646 vol. 22, the champion 6-year-old chestnut; Posena 1469 vol. 20, page 789. A. T. R. standard-bred, by Tony Larabri, dam Rosey Posey, the noted racing mare, belonging to McLaren's of Buckingham, due to foal in May.

The Hackneys are sired by the gold medalist, Ardermersy, and the thoroughbreds by Athol, the noted thoroughbred, owned by the Government. There are many others of the different breeds not mentioned here, also 60 HEAD OF REGISTERED AND GRADE HOLSTEINS, headed by Prince Xanthine Korndyke 19553, sired by Sir Rag Apple Korndyke 9562, and grandson of the noted Pontiac Korndyke—dam, Belle Xanthine de Kol. We have 18 females sired by him and many of the cows bred to him. This is one of the best opportunities ever offered in the province of Quebec to get good stock, as no reasonable offer will be refused. Mr. Arnold is renovating both horse and cow barns and will have no place to house them during construction.

Grenville is midway between Ottawa and Montreal on C.P.R. and C.N.R. G.T.R. Hawkesbury. Two trains each way every day. Long-distance Telephone. C.P.R. train leaves Ottawa 8.30, arrives Grenville 11 a.m. Leaves Montreal 8 a.m., arrives 10.13. Rigs will meet both these trains.

TERMS: 6 months on satisfactory security for amounts up to \$500. On larger amounts extension of time will be given to suit purchasers.

J. E. ARNOLD - - - GRENVILLE, QUE.

The Hawthorn Clydesdales and Shorthorns—Clydesdale mares and fillies. from extra heavy milking dams, a red and a roan. Females all ages. Two Shorthorn bulls, 8 mos., wean. Everything priced to sell.

The Hawthornes, ALLAN B. MANN, Peterboro, Ont., R.R. 4

CLYDESDALES and AYRSHIRES
Two Canadian-bred stallions, rising 3 years old, sired by imported horses, one from an imported dam, other's dam is Dolly Murray, the Canadian-bred champion mare at Toronto, 1913. Come and see them. They are priced to sell. We are offering some choice young bulls and a few females.
AGINGCOURT, ONT.

Bell Telephone HILLSDALE FARM Farm, 3 1/4 miles east of Ottawa
B. ROTHWELL
BREEDER OF HIGH-CLASS CLYDESDALES
Write me for prices on champion mares.
R. R. No. 1, OTTAWA, ONT.

Meadow Lawn Shorthorns F. W. EWING, ELORA, ONT.
In order to make room for the crop of calves coming on, attractive prices are being made on the offering of bulls ready for the trade. They are of extra quality and choice breeding, by that great sire, Escama Ringleader, by Right Sort imp. Few bulls their equal are to be had.

Maplehurst Shorthorns 2 CHOICE YOUNG BULLS 13 MTHS.
old, from J. W. Paterson's milking strain, sired by J. T. Gibson's herd leader. Also herd bull, Gil's Victor (aged 5 years), dam and sire both imported; bred by Pettit Bros.; good handler, active and sure. Prices right. Come and see or write.
Peter L. Graham, R. 2, Ilderton, Ont.

Cream Wanted FARMERS, if you have cream to ship, write us. We pay highest prices, furnish one can, and pay express charges. Satisfaction is our motto. **THE HALDIMAND DAIRY CO., Cayuga, Ont. Phone 65**

Artichokes Some extraordinary results obtained at Ottawa, in pork production, bulletin 51. Seed Artichokes \$1 per bushel, F.O.B., St. Thomas.
P. N. Haight, Box 124, St. Thomas.

APRIL 1917

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MESSRS. Hickman Kent, Eng PEDIC of all descr beef and sheep. Ill application Now is the better, and covered by

Beaver at foot and comb Rho winter-lay McKInney

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BALME Get a high pion steers 10 to 24 m heifers. T

Plaste Just one b good milki heifers. R. R. No.

Pleasant Gals. Br tords. Me Young sto insted. C Farm 11 n

FEED YOUR LIVESTOCK
"MAPLE LEAF" LINSEED OIL CAKE
THIS WINTER



It is a very Profitable Food

For years the leading graziers and live-stock men in Great Britain and Europe have been feeding Linseed Oil Cake to their beef and dairy cattle. It contains over 35% protein, and not only is a safe, natural food, but a very profitable food for

HOGS SHEEP CATTLE HORSES

Write for our free booklet, "Facts to Feeders."

THE CANADA LINSEED OIL MILLS LIMITED.
 TORONTO & MONTREAL

FREE My Money Making Horse Secrets

Make your own horses worth more. Earn as much as \$10 a day handling your neighbors' horses. Buy up horses with bad habits and make a good profit after correcting their faults the Beery way. I have taught 46,000 others how to do it. Some earn from \$1,200 to \$3,000 a year. My Free Introductory Course tells how it's done. Goes to you absolutely without cost or obligation if you write for it NOW. Prof. JESSE BEERY, Dept. 88, Pleasant Hill, Ohio.

Alloway Lodge Stock Farm
 Angus—Southdowns—Collies
 SPECIAL this month:
CHOICE BULLS
 ROBT. McEWEN, R.R. 4, London, Ont.

MESSRS. A. J. HICKMAN & CO., (late Hickman and Scruby), Court Lodge, Egerton, Kent, England, exporters of **PEDIGREED LIVE STOCK** of all descriptions. Specialty made of draft horses, beef and dairy breeds of cattle, show and field sheep. Illustrated catalogues and testimonials on application. All enquiries answered with pleasure. Now is the time to import. Prospects were never better, and insurance against all war risks can be covered by payment of an extra 1% only.

Beaver Hill Aberdeen-Angus bulls, from 15 to 24 months; cows, with calves at foot and bred again; females all ages. Rosecomb Rhode Island Red cockerels from good winter-laying strains, \$2.50 each. Write Alex. McKinney, R.R. No. 1, Erin, Ont. L.-D. Phone.

DR. BELL'S Veterinary Medical WONDER. 10,000 \$1.00 bottles FREE to horsemen who give the Wonder a trial. Guaranteed for Colic, Inflammation of Lungs, Bowels, Kidneys, Fevers, and Distempers, etc. Send 25 cents for mailing, packing, etc. Agents wanted. Write address plainly. **DR. BELL, V.S., KINGSTON, ONT.**

BALMEDIE ABERDEEN-ANGUS
 Get a high-class Angus bull and breed the champion steers. I have show-ring quality bulls from 10 to 24 months of age; also choice 1 and 3-yr.-old heifers. **T. B. BROADFOOT FERGUS, ONT.**

Plaster Hill Herd Dual-Purpose SHORTHORNS. Just one bull left, 12 months old—a choice one—good milking strain. Can spare a few cows and heifers. **F. Martindale & Son, Caledonia, R. R. No. 3, Ont. Long-distance Telephone.**

Pleasant Valley Farms—Shorthorns. Roan Ladies, Broadhocks, Rosewoods, Wimples, Stamfords, Merry Lassies, Duchess of Glosters, etc. Young stock of both sexes for sale. Inspection invited. **Geo. Amos & Sons, Moffat, Ontario, Farm 11 miles east of Guelph, C.P.R.**

Questions and Answers. Miscellaneous.

Hereditary Trouble.
 I have a mare which went blind two years ago after an attack of moon blindness or ophthalmia. Last summer she did not lose her winter coat of hair until late in the season. What is the cause of this? Will blindness be inherited by her offspring?
 E. R.
 Ans.—The disease of the eyes is believed by many veterinarians to be hereditary. The offspring would at least be predisposed to the weakness. Failure to shed the old hair is no doubt due to the animal's system being out of condition.

Sweet Clover.
 1. Would 20 lbs. per acre of sweet clover be sufficient to sow without nurse crop?
 2. Which is better for hay, white or yellow?
 3. If I sow it immediately after grain seeding, would I be able, with favorable weather conditions, to cut it for hay the same year?
 4. At what stage should it be cut?
 S. R.

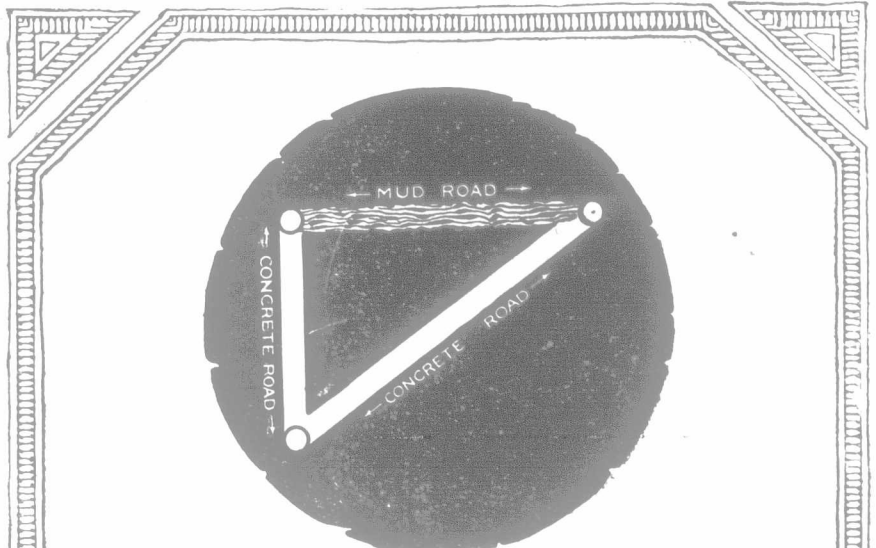
Ans.—1. Under average conditions, yes.
 2. We do not know. Both are grown satisfactorily. We rather favor white.
 3. Yes.
 4. Before it blossoms or gets so coarse as to become woody.

Hay in Mow.
 How much hay will there be in a mow 15 feet by 16 feet by 8 feet? The hay is well settled in the mow as it was covered with grain before threshing in the fall.
 G. A. E.

Ans.—The rules for measuring hay vary according to length of time the hay has been left in the mow, whether or not grain has been piled on it and also on the kind and quality of hay. Those who have bought hay by the lump claim that a ton of fine timothy and blue grass will occupy about 450 cubic feet of space when well settled. A ton of clover and timothy takes about 475 cubic feet. Estimating that a ton of the hay will occupy 450 cubic feet, the mow in question will contain about four and one-quarter tons.

Permanent Pasture—Mare Aborted.
 1. I have a very hilly field that I would like to seed to permanent pasture. The soil is a light loam, part of it is of a sandy nature. Would alfalfa stand for any length of time? If not, what would you recommend?
 2. I bought an agricultural mare about 10 years old in February, 1916. I bred her in July, 1916, but in February, 1917, she lost her foal; carrying it 7 months all but a few days. Mare had not been hitched for more than a month, but was out in the yard every day. She was fed a few crushed oats and clean oat straw to pick over in the morning, hay at noon and one quart of boiled oats and straw at night. She got water at a spring over the hill. The path over the hill and around spring was often icy and particularly so at this time. Mare has apparently raised a colt sometime as her teats are large and appear to have been sucked. Do you suppose she has been hurt, or is it a habit of some mares? Would you advise breeding again this season? If so, would it be well not to breed until after she would have foaled, had she carried the foal full time? Is there anything I might give her to prevent her aborting again?
 J. A. S.

Ans.—Alfalfa might catch and grow satisfactorily on the hill side but it is not a pasture crop. If the crown of the plant becomes injured it soon dies. A permanent pasture that stands fairly well is composed of a mixture of orchard grass, 4 lbs.; meadow fescue, 3 lbs.; Kentucky bluegrass, 3 lbs.; timothy, 3 lbs.; white Dutch clover, 3 lbs.; tall oat grass, 2 lbs., and meadow foxtail, 2 lbs. Alfalfa might be included in the mixture as it will give considerable feed before some of the grasses become established.
 2. We are inclined to think that the mare met with an accident which caused her to lose her foal. A pregnant mare should be kept off the ice as much as possible. One never knows when they will accidentally slip. There is no logical reason why the mare should not be bred any time this season, provided the abortion was due to an accident. Care should be taken next winter especially around seven months after she was bred.



The "Distance-Doubler"

ONE way to grasp the significance of the Good Roads Movement now well started in Canada—is to figure the time-waste involved in avoiding the bad road. Canada's eight million people are spread over a huge area. Ours is a country of magnificent distances. Big intervals intervene between town and town. We only make this situation worse by allowing our communities to be joined by roads that double distance. The remedy is found in

Permanent Highways of Concrete

It is actually a shorter journey over a two-mile Concrete pavement than over a one-mile stretch of an old-style road. That is not theory—it's a fact. And a fact so strikingly important that all who have it set before them must, in their desire for Canada's more rapid progress, seek eagerly for the further facts about Concrete as the road pavement ideal.

Canada's development is being retarded by her bad roads. To every man in Canada belongs a share in the responsibility of removing the "distance-doubler;" to all of us comes the privilege of doing something to improve matters. The first step is to become Concrete-wise by getting our Road Book. It's free to all who write

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"CONCRETE FOR PERMANENCE"

SALEM SHORTHORNS

Herd headed by Gainford Marquis (Imp.), undefeated in England and Canada. Sire of the winning group at Canadian National, 1914, 1915 and 1916. Can supply cattle, both sexes, at all times.
J. A. WATT, ELORA, ONTARIO

IMPORTED SHORTHORNS

11 imported cows have calved since arriving at farm, others due soon. Now is your opportunity to get something worth while to add to your herd at reasonable cost. Imported bulls of serviceable age.
A. G. FARROW, OAKVILLE, ONTARIO

OAKLAND SHORTHORNS—BULLS

Present offering is 7 fine bulls, from 11 to 18 months of age; all have good bone and are good feeders, being thick and low-set and all of choice milk strain and excellent breeding. In good growing condition and priced so you can buy.
JNO. ELDER & SONS, HENSALL, ONTARIO

A Choice Offering of Shorthorn Bulls—We have several good, thick low-set bulls that are now just ready for service, all reds and roans, and mostly of Booth breeding. We would like to have you see these. They are priced to sell.
GEO. E. MORDEN & SONS, Halton Co. Bell Phone Oakville, Ont.

The Manor Stock Farm SHORTHORNS

Bulls all sold, except the four listed in the London Sale, March 28, a Rosemary, a Wimple, a Mina and a Julia.
John T. Gibson, Denfield, Ont.

Shorthorns, Shrops., Clydesdales
Wm. D. Dyer, R. No. 3, Oshawa, Ont.
 Brooklin, G. T. R. and C. N. R., Myrtle, C. P. R.

Welland District Shorthorn Breeders' Club
 are in a position to supply Shorthorns in any number—from one animal to carload lots. Our herds represent some of the strongest blood in Canada. Get our Sales Lists. Write or phone **Chas. Gainer, Secretary, Box 697, Welland, Ont. A. E. Howell, President.**

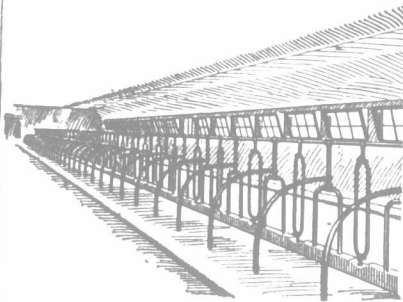
PARKHILL SHORTHORNS

Herd comprising over 70 head, representing noted Scotch families. Bulls all sold except those listed in London sale, March 28th next. A few heifers well in calf will be sold right. Visitors always welcome to this herd of long-established reputation.
R. & S. Nicholson, Parkhill, R. No. 2, Ont.

OUR LATEST IMPORTATION OF CLYDESDALES
 arrived at our barns late in November. A number of them since have been prominent winners at both Guelph and Ottawa. But we have others (both stallions and mares) that were never out; the majority of the stallions weigh around the ton, and better quality and breeding were never in the stables. Come and see them, we like to show them. **SMITH & RICHARDSON, COLUMBUS, ONTARIO**

Imported Shorthorns Cows and heifers in calf, or with calf at foot. Yearling bulls and bull calves. One of the best importations of the year. You will be surprised when you see them.
Will A. Dryden, Maple Shade Brooklin, Ont. Farm,

LOUDEN Sanitary Steel Stable Equipment



What it means to You

MODERN, Sanitary Stables at a reasonable outlay of time and money.

Convenience in looking after your cows, and a saving of time and labor in tying, feeding and cleaning them.

Increased milk production, no waste feed, and increased profits.

What it means to your Cows

COMFORT, cleanliness and almost as much freedom as when in pasture.

More sunlight and fresh air, the great germ destroyers.

Our catalogue is FREE. Write for it to-day. It tells all about the complete LOUDEN line.

Ask for our New Book of Barn Plans. It's free.

LOUDEN MACHINERY CO. OF CANADA, LTD.
Dept. 812 GUELPH, Ont. B

Lump Jaw

The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains to-day the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or had 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. Most complete veterinary book ever printed to be given away. Durably bound, indexed and illustrated. Write us for a free copy. FLEMING BROS., Chemists Church Street Toronto, Ont.

CREAMO Cotton Seed Feed Meal

FOR DAIRYMEN and FEEDERS
Ask your dealer or write for prices.
Fred Smith, 32-34 Front St. W., Toronto

Mardella Shorthorns — Bulls: size, quality; breeding dual-purpose cattle over 40 years. The Duke—dam gave 13,599 lbs. milk, 674 lbs. butter-fat—at the head. THOMAS GRAHAM, Port Perry, Ont., R. R. 3.

Brownlee Shorthorns. Offers a choice lot of young bulls, ranging in ages up to nine months and sired by the Nonpareil bull, Royal Saxon. See these before buying elsewhere. Could also spare a few females. Douglas Brown, Bright, Ont., R. R. 3. Ayr Station, G. P. R.

Glenfoyle Shorthorns
Present offering—3 bulls from 10 to 13 months. Nice, straight, smooth fellows. Prices easy. Stev art M. Graham, Lindsay, Ont.

When writing mention "Advocate"

The World's Crops and Markets.

The Canada Atlantic Grain Company of Winnipeg, sent out the following grain market report on April 7. It is especially interesting in view of the call for increased production. Read it over:

WHEAT.—Chicago May wheat sold to-day as high as \$2.07, Winnipeg May sold at \$2.00 per bushel, and Minneapolis May traded up to \$2.00½ per bushel. This excited advance appears to be the culmination of the various factors which forced the market into a new level. Since the delivery of President Wilson's note asking Congress to declare war on Germany, it is practically assured that the United States will enter the conflict on the side of the Allies. Formerly, the trade would construe this as likely to bring about an earlier peace, but now it is looked upon as another influence for higher prices. Very sensational news was received during the week from Kansas and Nebraska. Some of these reports are calamitous, but rains have since fallen in these States and there is some improvement to be noted. It is generally conceded that much of the winter wheat acreage in these two States will be ploughed up and planted to oats and corn, and perhaps to some extent in Nebraska in spring wheat. If considerable of this winter wheat acreage is planted to corn, it will have much the same effect as though the wheat crop on the same land had matured, because a large mixture of corn flour is now being used in making bread for the belligerents in Europe.

Primary receipts in the United States continue fairly liberal and fully up to those of last year. The demand for cash wheat, however, continues excellent, and until this demand is satisfied the present fancy premiums being paid for all kinds of cash grain will have the effect of holding prices. It is generally anticipated that considerable Canadian wheat of all grades will be shipped to the United States for domestic consumption there. The American visible supply this week shows the very moderate decrease of 802,000 bushels, with the total this week 39,717,000 bushels compared with 67,337,000 bushels in the same week a year ago. The Allied buyers bought between 2,000,000 and 3,000,000 bushels of May wheat in this market during the week. World's shipments were light. The total of world's shipments this week were 6,561,000 bushels of which 3,597,000 bushels left the North American Continent.

Crop Reports.

UNITED STATES.—Price Current: "Reports from winter wheat States indicate that condition of growing wheat is below normal throughout the entire territory, and in the States of Missouri, Nebraska and Kansas, the condition on account of winter-killing and lack of moisture is serious. Crop is very spotted throughout these States, but it is early to undertake to make a percentage estimate of growth condition. Season is generally normal, and farm work has begun and is progressing favorably.

FRANCE.—Weather against wheat, and millers' stocks light. Native offers are practically nothing, and millers' supplies are light with foreign arrivals small.

RUSSIA.—Crop advices are uniformly unfavorable. Weather has been bad during the winter, with severe cold and lack of proper snow covering. Railway facilities are inadequate and, therefore, there is very little grain moving. Stocks at north ports are light.

ITALY.—Crop prospects not favorable.

AUSTRALIA.—New crop estimates are being reduced owing to unfavorable weather.

INDIA.—Crop prospects excellent, but extreme estimates of the yield will not be realized.

OATS.—There is a tremendous demand for oats, both the May and July futures, and cash oats in store, Fort William. Heavy buying for account of the Government was in evidence all week. Exporters were also in the market for all grades of oats for shipment to Buffalo on the opening of navigation. In view of the high price of wheat and corn and the likelihood of an increased demand for oats when the United States forces are put in the field, the price of oats is really low, and it would not be surprising if our May oats eventually sold at 75 cents per bushel.

BARLEY.—There is no change in the barley situation. Exporters continue to buy freely and will do so as long as our barley remains at such a big discount un-

An IDEAL costs nothing because it quickly pays for itself



PROBABLY you intend to put up a silo some day. Why not do it right now?

A silo is not a luxury—something to be saved up for or bought only when you have surplus cash. In fact, the less cash you have to spare, the more you need a good silo. An IDEAL Green Feed Silo full of rich, juicy silage will cut such a slice off your winter feed bill and increase the milk flow from your cows to such an extent that even if you had to borrow the money it would pay you to put one up rather than to wait another year.

The longer you try to get along without a silo the longer you continue to sacrifice the profit you might have.

A prominent dairy authority says that even if a farmer had to buy a new silo every year he would still find it profitable. When you consider that the average life of an IDEAL Green Feed Silo is from fifteen to twenty years, that it pays for itself the first year and that each year thereafter it returns to its owner a profit equal to its entire first cost, you can appreciate how important a part of the farm equipment it is.

Look into this silo question now, and prepare to make bigger profits from your cows next winter.

Write today for our large illustrated silo catalogue, which shows you every detail of the IDEAL and explains just why you get more for your money in it than in any other silo.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

There are men that have good SHORTHORN HERDS that need good bulls to head them. There are men that have herds that are kept to breed thick, easy-feeding cattle, and big cows that are good milkers. There are men that are trying hard to start improvement in their own herds and in their neighborhoods. I have a suitable bull for each at moderate price, and I PAY THE FREIGHT. Business established 81 years. Robert Miller, Stouffville, Ont. One hour from Toronto.

ESCANA FARM SHORTHORNS

Sires in use: NEWTON GRAND CHAMPION (IMP.), a Marr Clara, recently imported, and RIGHT SORT (IMP.). His get has won numerous first and special prizes at Toronto. For Sale—Seven bulls, choice individuals, at reasonable prices. Also a dozen cows and heifers, some of them bred to our herd sires. Herd numbers 100.

MITCHELL BROS., BURLINGTON P. O., ONTARIO
Jos. McCrudden, Manager Farm ¼ mile from Burlington Jct.

Glengow Shorthorns, Cotswolds

For the present, we have sold all the Cotswolds we wish to spare, but we have a choice offering in young bulls fit for service. They are all of pure Scotch breeding, and are thick, mellow fellows, bred in the purple. WM. SMITH, Columbus, Ont., Myrtle, C. P. R., Brooklin, G. T. R., Oshawa, C. N. R.

Spring Valley Shorthorns

Herd headed by the two great breeding bulls, Newton Ringleader (imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.
Kyle Bros., Drumbo, Ont. Phone and telegraph via Ayr.

SHORTHORNS AND SHROPSHIRE—T. L. Mercer, Markdale, Ont.

Have sold all the Shropshires I can spare this season. Present offering in Shorthorns—ten really choice young bulls, sired by Broadhocks Golden Fame =50018 = (imp.), and out of such noted families as Campbell-bred Clarets, Nonpareils, Marr Missies, Stamfords, Crimson Flowers, Village Girls and Charming Gems, ranging from 9 to 16 months old. All are good reds and roans.

IMPORTED SHORTHORNS

35 imported cows and heifers, forward in calf to service in Scotland, also five imported bulls. Our 1916 importations are all choicely bred. Have also home-bred bulls and females. Farm half mile from Burlington Junction. Write or call and see us. J. A. & H. M. PETTIT, Freeman, Ont.

BLAIRGOWRIE SHORTHORN OFFERING

Imported and Canadian Bred. More bulls to select from than any herd in Ontario, all of serviceable age; also a large number of females, which are bred right and priced right. All the stock for sale.
JOHN MILLER, Ashburn, Ontario Myrtle Station, C.P.R. and G.T.R.

BRANT COUNTY SHORTHORN CLUB

offers several young bulls of best breeding and fit for service. Also the Beauty-bred bull, Roan Duke 101320, a proven sire, and whose dam is a heavy milker. For prices and particulars address:
THE SECRETARY, GEO. L. TELFER, R. R. 2, PARIS, ONTARIO

Spruce Glen Shorthorns of such popular strains as Minae, Fames, Miss Ramsdens, Florences, Emilys, etc. Have still a few young bulls—thick, mellow fellows, fit for service. James McPherson & Sons, Dundalk, Ontario



Don't Poison Your Baby

The press has reported 106 fly poisoning cases in the last three years—a fraction of the real number. Flypoisons kill more children than all other poisons combined.

The saucer of poisoned paper set on the window sill, a can from which the poisoned wick protrudes, is putting arsenic within your child's reach.

Avoid a possible tragedy by catching flies with safe, efficient, non-poisonous

TANGLEFOOT



Tanglefoot does its work so well that it not only catches the fly but covers its germ-laden body with a disinfecting varnish. It protects you both from flies and fly poisons.

Government Says: "Don't Use"

Following is the U.S. Government warning taken from Supplement No. 29 to the Public Health Report: "Of other fly poisons mentioned, mention should be made, merely for a purpose of condemnation, of those composed of arsenic. Fatal cases of poisoning of children through the use of such compounds are far too frequent, and owing to the resemblance of arsenical poisoning to summer diarrhea and cholera infantum, it is believed that the cases reported do not, by any means, comprise the total. Arsenical fly-destroying devices must be rated as extremely dangerous, and should never be used, even if other measures are not at hand."

Made in Canada by The O. & W. Thum Company Walkerville, Ont. Another Form of Arsenic American Address: Grand Rapids, Mich.

If you are in need of a CREAM SEPARATOR Let us ship you a

"Sanitary King"

Six Sizes—135—200—250—375—600 and 800 lbs. capacities. DETACHABLE SPINDLE, OIL SPLASH and loose disc. We GUARANTEE these machines to be built of the best material, first-class workmanship, skim clean, easy to turn and wash. Cash prices very low. Must satisfy or money refunded. Sold on easy terms if desired. Write to-day for catalogue and local agent's address.

King Separator Works of Canada

Bridgeburg, - - - Ontario

Better Be Sure Than Sorry

Your profits depend upon the health of your flock.

Pratt's POULTRY REGULATOR Regulates the blood, bowels and digestive organs. Keeps fowls active and makes them lay more eggs. Prevents disease.

Write for FREE Book, "Poultry Wrinkles."

PRATT FOOD CO. of Canada, Limited 68 J. Claremont St. TORONTO



der American barley. May delivery barley sold to-day at \$1.11½, this is for No. 3 barley, with the privilege of delivering No. 4 barley at 5 cents per bushel discount.

FLAX.—May flax sold at \$2.99 to-day, and July flax at \$3.00½ per bushel. American crushers have finally come into this market and bought freely of our supplies. In fact, the only supplies available now to fill the heavy oil demand are those on the North American continent. This oil demand will be greatly increased upon the entrance of the United States into the European conflict, and still higher prices are expected for flaxseed. Great Britain is in control of the Indian crop, and the Argentine Government has limited the export of flaxseed from the 1916 crop to 4,000,000 bushels.

Ideals.

EDITOR "THE FARMER'S ADVOCATE":

It is said that the ancient Peruvians had very different ideals of life from those conspicuous in modern civilization, and that the quiet, contented, unostentatious life of a humble tiller of the soil was esteemed to be the acme of success. What a revolution there would be in Canada if we should adopt such ancient ideals? If, instead of aiming at getting as big a portion of this world's treasures as is possible, we all strove to live somewhat as Thoreau did in his "Walden!" The most successful man would then be, not he who could consume the greatest amount of material good things, but he who could achieve the highest perfection of physical strength, intellectual acumen and moral superiority, and at the same time consume the least amount of material good things. History records that some great men have lived in past ages who did not need a 40 horse-power locomotive to transport their bodies a few hundred yards, and that in other respects these great men made quite moderate demands for food, clothing and housing. It is, indeed, questionable whether the tremendous increase of man's power over external nature, that we identify with modern civilization, is an unmixed blessing. "Knowledge comes, but wisdom lingers," and modern civilization is at present destroying itself fairly rapidly. What the end may be no one knows.

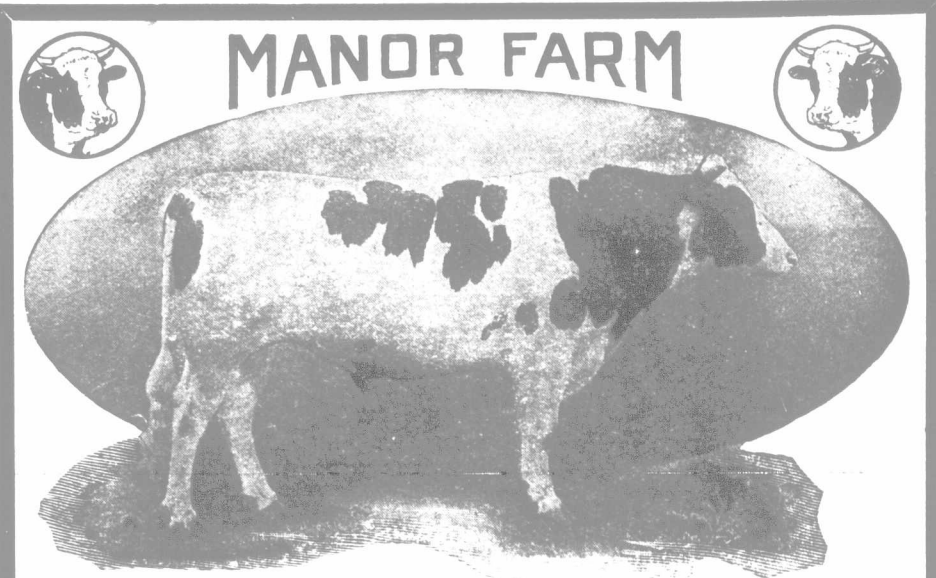
In an ancient Book (was it Peruvian?) we read of a certain rich man whose ground brought forth bountifully; and he reasoned within himself, saying, what shall I do, because I have not where to bestow my fruit? And he said, This will I do: I will pull down my barns and build greater, and there will I bestow all my corn and my goods. And I will say unto my soul, soul, thou hast much goods laid up for many years, take thine ease, eat, drink and be merry. And we read that he was condemned for his folly. We are further counseled, in the same book, to be not anxious as to what we shall eat, or wherewithal we shall be clothed, and to lay up for ourselves, not treasures of a material nature but treasures of character and personality.

How strangely these counsels fall upon modern ears? How antiquated they seem; for does not success in life consist in the abundance of things which a man possesseth? Counsels good enough for the ancient Peruvians, or other barbaric peoples, but quite out of place in this enlightened day and generation? He who would be chief among us must keep his hands unsoiled, dress in a frock coat and silk hat, live in a palace, eat costly viands, be served by a small army of menials, transported in cushioned ease by private locomotive, and addressed with respectful awe as Sir This or Sir That.

However, there are some even in Canada at the present time who adhere to the ideals of the ancient Book, who believe in and practice the "Simple Life," and who do not bow in homage before the Golden Image which King Commerce has set up. Listen to the following Voice, which speaks eloquently in your Christmas Number:

"Place and self and power for those who prize them. I never did. As a plain, every-day farmer in the Peace River District of Canada, nothing could tempt me to trade places with any president or premier, any prince or potentate in God's wide world."

Who knows but that the old Peruvian ideal may undergo reincarnation, and again become an active force in the world of man? Who knows? W. G. Good. Brant Co., Ont.



KING SEGIS PONTIAC POSCH SENIOR SIRE IN SERVICE AT MANOR FARM
Sire King Segis Pontiac Alcartra (the \$50,000 Sire)
Dam Fairmont Netherland Posch (32.59 lbs. at 4 yrs. old)

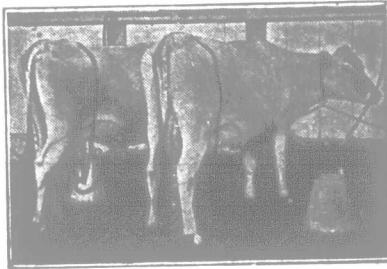
Young Sires from Manor Farm

Are in great demand. I have only two bull calves left, both of very choice breeding, one from a 28-lb. dam, the other from a 20-lb. two-year-old now under test and making good.

They are priced right to sell. Write for extended pedigree and photo.

GORDON S. GOODERHAM CLARKSON, ONT.

HINMAN THE UNIVERSAL MILKER



HINMAN SIMPLICITY MEANS LOW COST—EASY OPERATION—

Let your Boy or Girl take a Man's place in the Dairy.
The Hinman is a Safe Machine, requiring Small Power to Operate.

Write for Booklet "H" and Learn Why you cannot afford to be without this simple machine.

H. F. BAILEY & SON, GALT, ONT. Manufacturers under HINMAN patents

"Empire" Corrugated Iron

The original brand with a 30-year reputation behind it. Every sheet true and uniform and heavily galvanized. A post card will bring you particulars.
Metallic Roofing Co., Limited, Manufacturers, Toronto

Hospital for Insane--Hamilton, Ont.

Our only offering at present is a bull born February 10th, 1917, a grandson of Dutchland Colantha Sir Mona, and the great cow Lakeview Lestrangle, 28.34 lbs. butter in 7 days. His dam is a high-producer and tester, and carries the blood of King of the Pontiacs, and King Segis.

Apply to Superintendent.

KING SYLVIA KEYES 28566

Is our junior herd sire. Twenty of "King's" nearest relatives average for seven days 29.97 lbs. butter. His dam and five sisters' average milk for one day is 110 lbs.; seven days, 724.4 lbs. His dam, sire's dam and two sisters' average for seven days is 774 lbs. milk, with 32.26 butter. "King" will be bred to a limited number of approved cows this year. Prices and terms on application. Don't delay. Correspondence solicited.

BACKED BY THE WORLD'S GREATEST RECORDS.

W. G. Bailey, Oak Park Stock Farm, R.R. 4, Paris, Ont.

SUMMER HILL HOLSTEINS

The only herd in America that has two stock bulls that the dam of each has milked over 116 lbs. a day and their average butter records are over 35 lbs. a week. We have fifty heifers and young bulls to offer, by these sires, and out of dams just as well bred. We invite personal inspection.

D. C. FLATT & SON, R. R. 2, HAMILTON, ONT. Phone 7165

Clontarf Farm Manning W. Doherty, Malton, Ont. Est. 1820
Breeders of Clydesdale Horses, Holstein Cattle, Yorkshire Hogs. We can now offer Holstein bull (Pontiac Artis Thekla 30395), twelve months old, and every inch a bull, one-half white, dam Empress Thekla; has a record at two years and two days old of 16.54 butter. Sire, Pontiac Artis Canada. This is a beautiful animal and the first cheque for \$100 gets him.

YORK COUNTY BREEDERS "Quality Sale" of Holsteins

Richmond Hill Fair Buildings, WEDNESDAY, MAY 9th
A few minutes trolley ride north of Toronto AT 12.30 P.M. SHARP

York County is well known as the home of many of the best sires of the breed, and the blood of the following are well represented in this sale: a 33.31-lb. son of the great King Segis, grandsire of the only 50-lb. mature cow and of the only 46-lb. four-year-old; a son, a full brother, a grandson of May Echo Sylvia (the world's record cow) and several grandsons of the world's greatest sire, King of the Pontiacs.

York County breeders are making every effort to make this sale of seventy head of Holsteins the sale of the season—a sale that will be a credit to York County, the breed, the breeder and the buyer.

Sixty good females will be sold, with records as high

R. W. E. BURNABY

as 26 lbs. butter in 7 days, and most of them bred to one of the sires mentioned above.

If you want thirty, forty or fifty-pound blood in your herd at a time when expensive feed is a thing of the past and when prospects were never better for good prices for milk, butter and cheese, and with a growing demand for good breeding Holsteins, come to this great "Quality Sale".

Remember the Sale is rich in the blood of the families that hold the world's records for both milk and butter, and that every animal will be sold, regardless of value, to the highest bidder, and that the sale will start at 12.30 o'clock, sharp.

Send for catalogues to:—

JEFFERSON, ONT.



IMPERIAL EUREKA HARNESS OIL

MAKES HARNESS PLIABLE

EUREKA HARNESS OIL softens harness, makes it tougher, stronger.

Penetrates into the leather, closing the pores to water—leather's greatest enemy.

THE IMPERIAL OIL COMPANY, Limited
Branches Throughout Canada

BLACK LEG LOSSES SURELY PREVENTED BY CUTTER'S BLACKLEG PILLS

Low priced, fresh, reliable, preferred by western stockmen, because they protect where other vaccines fail.

Write for booklet and testimonials.
10-dose pkg. Blackleg Pills, \$1.00
50-dose pkg. Blackleg Pills, \$4.00

Use any injector, but Cutter's simplest and strongest. The superiority of Cutter products is due to over 15 years of specializing in VACCINES AND SERUMS ONLY. INSIST ON CUTTER'S. If unobtainable, order direct.

The Cutter Laboratory, Berkeley, Cal., or Chicago, Ill.

18 HOLSTEIN BULLS FOR SALE

Eleven months and under; also 1 cow; 8 heifers, freshening from March till September, from tested and untested dams.

R. M. HOLTBY, PORT PERRY, ONT. R. 4

RIDGEDALE HOLSTEINS offers three young bulls (one ready for service) at special prices. One is by Pontiac Hengerveld Peterite, and the others are by King Segis Pontiac Duplicate. Can also supply a few females. R. W. Walker & Sons, Port Perry, R. R. 4, Manchester, G.T.R., Myrtle, C.P.R.

Willowlea Holsteins \$50 takes a bull calf 65 lb. dam; \$125 will buy a choice 2-year-old heifer in calf. The sire is from a dam with 12,000 lbs. milk in 8 months. Visitors welcome.

A. E. MIGHT, Brampton, Ont., R.R. 6

Advocate Ads. Pay

AT SERVICE May Sylvia Pontiac Cornucopia

"The most perfectly bred bull of the breed," and a perfect individual. Sire, Spring Farm Pontiac Cornucopia, a son of the 44.18-lb. bull in Canada, K. P. Pontiac Lass. Dam, May Echo Pontiac, a daughter of the great May Echo Sylvia, champion milk cow of the world. The butter records of his two grandams average 42.59 lbs. in seven days, and 170.5 lbs. in thirty days, being also another world's record.

Apply early, as only a number of approved cows will be accepted. Terms, a matter of arrangement.

Owners—W. F. Elliott, A. J. Camplin, C. R. Dyke, L. M. Kennedy, G. Brownsberger.

W. F. ELLIOTT, Sec., (Bell Phone) Unionville, Ont.

HIGHLAND LAKE FARMS

Herd sire, Avondale Pontiac Echo (under lease) a son of May Echo Sylvia, the world's record cow for milk production, and Canadian record for butter, 41 lbs. Only one other 41-lb. bull in Canada. Our herd of one hundred includes nearly fifty daughters of a 33.31-lb. son of the great King Segis, brother to the sires of three world's record cows: Mature, 50.68; sr. 4-year-old, 46.84; jr. 4-year-old, 40.32 lbs. Junior herd sire, King Segis Pontiac Canada, a half brother to Avondale Pontiac Echo, out of a 30-lb. Segis cow. He is for sale.

If this combination of breeding interests you, write for prices on either males or females.

R. W. E. BURNABY, Farm at Stop 55, Yonge Street Radial, JEFFERSON, ONTARIO

ROYCROFT FARM HOLSTEINS

FORMERLY THE HET LOO HERD

We have a few exceptionally nice, straight, 9, 10 and 12-month heifers, principally all from high-record cows we have purchased in both Ontario and United States. They are all from good-record sires, but as our stabling is limited we are offering these at prices away below their value, so we may keep only those of our own breeding. They will not remain with us long. Write quick if you want them.

WE ARE AT PRESENT OFFERING THE SERVICES OF KING SEGIS ALCARTRA SPOFFORD TO A LIMITED NUMBER OF APPROVED COWS. WRITE FOR PARTICULARS.

W. L. SHAW, PROPRIETOR Gordon S. Manhard, Superintendent, Newmarket, Ontario

EVERGREEN STOCK FARM—High-class Registered Holsteins

To breeders who wish to make secure their future success we are offering some extra choice bull calves at living prices. Two of these are from daughters of a son of Lulu Keyes, 36 lbs. butter 7 days, and 21 lbs. milk per day, and sired by Prince Colantha Abbekerk, whose dam made 32 lbs. butter 7 days and 104 lbs. milk per day.

A. E. HULET, NORWICH, ONT. BELL PHONE 48-r. 3

Silver Stream Holsteins

Herd headed by King Lyons Hengerveld, whose five nearest dams average 31.31 lbs. butter in 7 days, and by King Lyons Colantha, 6 nearest dams average 30 lbs. butter in 7 days. Bulls fit for service; also bull calves from above sires and out of R.O.P. dams for sale.

J. MOGK & SON, R. R. 1, Tavistock, Ontario

ORCHARD LEIGH HOLSTEINS

Present Offering—The best lot of young bull calves we have ever raised, from 1 to 5 months old. Will also sell a few heifer calves or yearlings. Write, or better come and see them.

JAS. G. CURRIE & SON, INGERSOLL, ONTARIO

Riverside Holsteins

Herd headed by "King Johanna Pontiac Korndyke", a brother of Pontiac Lady Korndyke, 38.02 lbs. butter in 7 days, 156.92 in 30 days—world's record when made. His ten nearest relatives have official records that average 34.94 lbs. butter in 7 days. His daughters have made good in official test. The present R. of P. cow of Canada was bred here. Choice young bulls for sale.

J. W. RICHARDSON R. R. No. 2, Caledonia, Ont.

KING SEGIS WALKER'S

Oldest daughter with first calf made 456 lbs. milk and 24 lbs. butter; with her second calf, 560 lbs. milk and 29 3/4 lbs. butter. His first granddaughter, through his son at 2 yrs. 2 months, made 447 lbs. milk and 23 1/2 lbs. butter. Young stock for sale.

A. A. FAREWELL, OSHAWA, ONT.

CLOVERLEA HOLSTEINS

Our entire lot of bulls, fit for service, as advertised are sold. We still have a number coming on, eight months and under, which will be priced right for immediate sale. Write quick for they will go fast—

GRIESBACH BROS., COLLINGWOOD, ONT.

Dumfries Farm Holsteins

175 head to choose from. We have on hand at present about 20 young bulls by De Kol Mechtildle Prince, a son of Prince Anggie Mechtildle. Can also spare a few fresh cows. Visitors always welcome.

S. G. & ERLE KITCHEN, St. George, Ont.

Questions and Answers. Miscellaneous.

Barley—Incubators.

What is the best variety of barley to grow for feeding hogs?
2. What do you consider is the best make of incubator?

Ans.—1. O. A. C. No. 21 is a variety of barley which is extensively grown and is highly spoken of as a yielder and from the feeding standpoint. A variety known as Manchurian Ottawa 50 is recommended by the Dominion Cerealists.

2. There are a number of makes of incubators on the market all of which give good results if directions are carefully followed. All makes are designed on much the same principle although they may vary slightly in detail.

Preventing Self Sucking.

Sometime ago I read about a contrivance to prevent cows sucking themselves. It was something to be fastened in the animal's nose. Would it work allright on a steer to keep him from sucking cows? Where can it be secured?

J. H.

Ans.—A device which is effectual and inexpensive is to insert an ordinary bull ring in the animal's nose and attach two common iron rings to it. These will suspend loosely in front of the mouth if the animal attempts to suck, but will not interfere with grazing or feeding from a manger. Rings may be secured from the local hardware.

Engine Power.

Would like to have you publish in the next issue of your paper the power a 4 cylinder 4 cycle engine should deliver on the belt. Diameter of cylinders 2 3/4 inches, stroke of pistons 4 inches; diameter of belt pulley 7 inches. Would a 3/4 inch Kingston carburetor furnish gas enough for an engine of these proportions?

J. W.

Ans.—There are a number of formulae for estimating the horse-power of gasoline engines, and they vary a great deal in results. The average indicates that the engine specified should give from 7 to 8 horse-power if run at a speed suitable for its size. The carburetor mentioned should be large enough.

W. H. D.

Hens Eat Eggs.

What is the best way to prevent hens from eating their eggs? G. B. C.

Ans.—Egg eating is a bad habit which hens sometimes contract when there is lack of green feed or meat feed in the ration. Once they acquire a taste for eggs, it is almost impossible to prevent them from eating them. It very often happens that only two or three hens are guilty at the start, and if these can be caught in the act and removed from the pen the trouble may go no further. Clipping the sharp point off the bill, or filling an egg shell with red pepper or some hot material has been known to break the habit. However, it is not a sure cure. Darkened nests will help to overcome it and we believe there are nests on the market which are designed so that the egg disappears when it is laid. With the coming of warm weather when the birds have free range and obtain plenty of shell, green feed and meat feed, the egg-eating habit will no doubt be overcome.

In the tube train the other night a gay, young spark was letting off the effects of a festive meeting with a few friends. He first attracted attention by yelling at the top of his voice.

"Whasamassereverbodinis car!" he bawled.

A timid young lady fainted.

"Whoopee! I-don-care-if-I-never-go home!" he screamed again.

This time twin babies began to cry.

"Imabadmanaswhatlam!" Everybody began to tremble.

Finally a woman who sat near the middle of the car spied a special comfortable in one of the front seats.

Making her way to the officer, she tapped him on the shoulder.

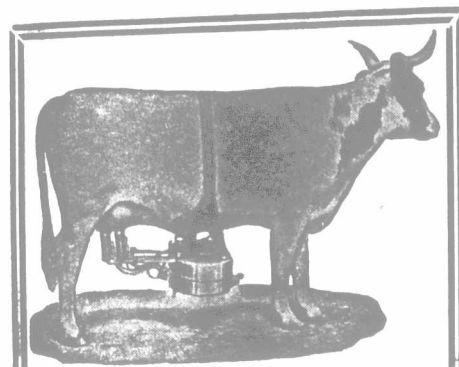
"Why don't you do something to that dreadful man?" she demanded.

"What dreadful man?"

"The low rough who has been causing a commotion in the back of the car."

Rising in his seat, the officer said, in surprise:

"Was that a rough? I thought it was the conductor calling the names of the stations!"



THE OMEGA MILKING MACHINE

has these advantages over other machines: Transparent celluloid milking tubes instead of rubber ones which harbor germs and are difficult to clean. Pail and teat cups are suspended from the back of the animal. The udder has no weight to carry. The pail cannot be knocked over and the teat-cups cannot fall on the stable floor and suck up straw or filth. The OMEGA milks fast and milks clean.

OMEGA—The Best by Test

The OMEGA is used and recommended by Mr. R. R. Ness, of Howick, Que., one of the largest importers and breeders of record Ayrshire cattle in Canada. He writes regarding the Omega as follows: "It certainly has all other machines beaten in point of cleanliness with those celluloid tubes instead of rubber, the pail hanging on the cow's back—never touching the floor, the position in which the teat-cups are held, insuring the most cleanly way of milking known to-day."

WRITE NOW for our FREE illustrated booklet describing the many superior features of the OMEGA.

C. Richardson & Co., St. Mary's Ontario

Advertisement for American Cream Separator, featuring a woman operating the machine and text: '16 95 ON TRIAL American FULLY GUARANTEED CREAM SEPARATOR'.

Advertisement for Cream, featuring text: 'CREAM We are open to buy cream both for churning and table use. ASK ANY SHIPPER about our service and prompt returns. Ask for prices. The figures of yesterday may be TOO LOW for to-morrow. We furnish cans. The Toronto Creamery Co., Limited Church Street, Toronto'.

Advertisement for Lakeside Ayrshires, featuring text: 'LAKESIDE AYRSHIRES A few young bulls for sale from Record of Performance dams, imported and Canadian-bred, sired by Auchinbrain Sea Foam (Imp.) 3575, grand champion at both Quebec and Sherbrooke. Write for catalogue. GEO. H. MONTGOMERY, PROPRIETOR Dominion Express Building, Montreal, Que. D. McARTHUR, MANAGER, PHILIPSBURG, QUEBEC'.

Advertisement for Dungannon Farm Ayrshires, featuring text: 'Dungannon Farm Ayrshires Offers two eleven-months-old bulls by Hum's-hau Prince Fortune, and from good dams. A so younger stock. W. H. FURBER, Mgr., R. R. 6, Cobourg, Ont.'

Advertisement for Glencairn Ayrshires, featuring text: 'Glencairn Ayrshires Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. THOS. J. McCORMICK, Rockton, Ont., Copetown Stn., G.T.R.'

Advertisement for Live-stock Labels, featuring text: 'LABELS Live-stock Labels for cattle, sheep and hogs, manufactured by the Ketchum Manufacturing Co. 303 501, Ottawa, Ont. Write for samples and prices'.

Questions and Answers. Miscellaneous.

Thoroughpin. I have a young mare which has a thoroughpin which is considerably swollen and discharges a little. What treatment do you advise? H. F.

Ans.—Sometimes tincture of iodine applied with a stiff brush once daily will remove the thoroughpin. The animal should not do any heavy work during treatment if the best results are to be obtained. The following absorbent blister may be used in place of the iodine: Take 3 drams each of biniodide of mercury and potassium iodide and 6 ounces of water. Clip off the hair and apply the above. After four or five applications cease for a week and then repeat. It may be necessary to repeat the treatment four or five times.

Heifers Fail to Breed—Reforestation.

I have two young heifers which have been bred three times by different bulls. Have they contracted a disease from the bulls? What treatment would you advise?

2. What kind of trees are best to plant for a windbreak? What kind of pines or other trees grow fastest and large enough to make into lumber or small timber. J. N.

Ans.—The heifers may or may not have contracted a disease. They sometimes fail to breed without any apparent cause. What is known as the yeast treatment may give the desired results. Mix an ordinary cake of yeast to a paste with a little warm water and allow to stand for 12 hours in a moderately warm place, then stir in one pint of freshly-boiled, luke-warm water and allow to stand for 8 or 10 hours. The mixture will then be ready for use and the entire quantity should be injected into the vagina of the animal to be bred. Use the mixture when period of oestrus is first noticed and breed when the period is about ended.

2. Norway spruce or cedar makes a good windbreak. White and Scotch pines are commonly used in reforestation work. They attain a fair size in a few years time. Some of the soft woods as Catalpa, Larch, Chestnut, etc., make fairly rapid growth and while not making the highest priced lumber can be used as fence-posts, etc.

Albania.

To what country does Albania belong, and how is it governed? L. G.

Ans.—Albania is a portion of the Turkish Empire. Information given in the Encyclopaedia Britannica is to the effect that tribal organizations still survive. The practical autonomy which the Gheg mountaineers, (one tribe) enjoy has been won by a prolonged and successful resistance to Turkish domination. They know nothing of the Ottoman law, although Turkish officials are established amongst them. Their obligation to the Turkish Government is to furnish a contingent in time of war. The only law they recognize is either traditional custom or an unwritten civil and criminal code. There are in each clan a certain number of elders who form a council and hold their office by hereditary right. They preside over the assemblies of the tribesmen which exercise the supreme legislative power. The clan is generally sub-divided into smaller communities, each administered by a local notable or "Jobar". The "Jobars" superintend the execution of the laws, collect fines, and administer capital punishment. They are in contact with the resident representative of the tribe of Scutari, who forms the only link between the mountaineers and the Turkish Government. Different parts of the country have different forms of government. The upper Scutari group or confederation are comparatively under the Turkish rule and pay a small annual tribute. The chiefs who assess and collect the tribute form the administrative council. Parts of the country enjoy a form of independence, while others are subject to the Turkish power. These customs prevailed previous to the war, but many changes have been wrought in the world during the past two-and-one-half years. Albania is in the theatre of war in the Balkan states and it is not unreasonable to expect that the customs of the people of Albania have been affected.

Advertisement for 'What, When and How to Paint' book by The Canada Paint Co. Includes illustrations of a house and interior, and text: 'Get This Book It is a practical and valuable book on Home Beautifying—an authority on painting. You will find it interesting, instructive and brimful of valuable, dollar-saving information whether you intend painting your house or barn or only a single piece of furniture. It tells you how to estimate the quantity of material for exterior or interior painting; the quantity of paint or finish needed for a given floor; the amount of varnish required for a door; the amount of shingle-stain required for a roof, etc. If you intend doing any painting or decorating, if you want to make your work easier, better and more economical send for your copy of free book today. The Canada Paint Co., Limited 570 William Street, Montreal. "Sun Waterproof Floor Finish" stands the hardest usage.'

Advertisement for Zenoleum Sheep Dip, featuring an illustration of a sheep and text: 'More Wool and More Mutton SHEEP DIP As a "dip", Zenoleum is clean, and does not leave fleeces stained or greasy. It is a powerful germicide, stronger than carbolic acid, yet is not poisonous, is not inflammable and is not injurious to handle nor does it burn or irritate the skin as most other preparations do. Used by 50 Agricultural Colleges. FREE copy of our Booklet, Diseases of Livestock and Their Cure, sent post-paid on request. ZENNER DISINFECTANT CO. Sandwich St. East, WINDSOR, ONT.'

Advertisement for Humeshaugh Ayrshires, featuring an illustration of a cow and text: 'Humeshaugh Ayrshires As we have a number of bull calves on hand from our champion sire, Hillside Peter Pan and R.O.P. dams, we have decided to reduce prices to quick buyers. Write at once and secure the pick. ALEX. HUME & CO., CAMPBELLFORD, R. R. No. 3'.

Advertisement for Hillhouse Ayrshires, featuring text: 'Hillhouse Ayrshires F.H. Harris, Mt. Elgin, Ont. Headed by Burnside Lucky Master Swell, a combination of blood so hard to equal, being of the Masterpiece and Lucky Girl families, a combination which means quality, production and constitution. 90 head to select from. Special offering—20 yearling heifers and 3 bulls. Inspection invited'.

Advertisement for Young BRAMPTON JERSEYS Bulls, featuring text: 'Young BRAMPTON JERSEYS Bulls For the fortnight we are making a special offering on young bulls, bred from the highest producing families ever introduced into Canada. Brampton Jerseys and their descendants hold all Jersey R.O.P. records, save one. Females, all ages, also for sale. B. H. BULL & SON, Brampton, Ontario'.

When writing please mention Advocate

Maxwell

LONG experience has taught us the best principles of churn construction. For instance, wood is the best material for the barrel, it does not chill like crockery or glass and oak is the best wood. The barrel of Maxwell churn is made only of selected oak. Mechanism is simple but strong. Every detail of construction and finish is high class throughout. That's one reason why Maxwell churns are exported to all the great butter making countries of the world.

Maxwells Ltd. - Dept F St. Mary's Ont. 27



LIVINGSTON BRAND
The purest and best.
OIL CAKE MEAL
THE DOMINION LINSEED OIL CO., Ltd.
Manufacturers, Baden, Ont.

TAMWORTHS
For Sale
Large numbers of choice males and females.
All ages.
Herold's Farms, Beamsville, Ont.

TAMWORTHS
Young sows bred for April and May farrow, and a nice lot of young boars for sale. Write:
John W. Todd, R. R. No. 1, Corinth, Ont.
Morrison Tamworths and Shorthorns. Bred from the prizewinning herds of England. Tamworths, both sexes, 20 young sows, bred to farrow in June and July. Young boars from 2 to 8 months old; Shorthorns of the best milking strain. Chas. Currie, Morrison, Ont.

Yorkshires Sows bred and younger; boars 2 and 3 months; sire, Our Champion, winner of 12 firsts and 5 championships in 2 years' showing at Toronto and Ottawa. Bronze turkeys from prize-winning stock.
Wm. Manning & Sons, Woodville, Ont.

Meadow Brook YORKSHIRES
I am offering a splendid choice of sows, bred for May and June farrow. All bred from prize-winning stock. Prices reasonable.
G. W. Miners, R.R. 3, Exeter, Ont., Huron Co.

Cloverdale Berkshires and Shropshires—In Berkshires I can furnish boars or sows, all ages, pairs not akin. All breeding stock imp. or from imp. stock. In Shropshires, can furnish rams or ewes, any age, from imp. stock. Prices reasonable.
C. J. LANG, R.R. No. 3, Burketon, Ont.

Swine for Sale Am offering choice stock in Poland-China and Chester White swine of either sex; most any age. First-prize Poland-China herd, London and Toronto, 1915. Prices easy.
GEO. G. GOULD, R. R. 4, ESSEX, ONT.

Champion Berkshires—When buying, buy the best; our present offering are sons and daughters of the two great champions, Lucky Lad and Baron Compton, and one of winners, including champions. Both sexes.
W. W. Brownridge, Georgetown, Ont. R. R. 3.

Berkshire Pigs Registered stock, choicely bred young boars, and sows in pig, all ages. Can supply pairs not akin.
CREDIT GRANGE FARM
J. B. PEARSON, Mgr., Meadowvale, Ontario.

SPRINGBANK CHESTER WHITES
Ancestors bred from prizewinners and champions. Young sows, bred for June farrow; young pigs, weaned, both sexes. Young boars, four months old.
Wm. Stevenson & Son, R. R. No. 1, Science Hill, Ont.

AVONHURST YORKSHIRES
A large number of choice pigs, February farrowed. One of our sows farrowed 59 pigs in three litters. Correct bacon type. Pairs not akin. We guarantee satisfaction.
B. Armstrong & Son, Codrington, Ont.

Questions and Answers.
Miscellaneous.

Brine Spots on Ceiling.

I recently read an article referring to brine spots on the ceiling wall paper. If fresh paper is put on over this, the spots are almost sure to show through. However, I tried painting the spots and then papering after the paint had become dry. This has overcome the trouble.
A. J. F.

Cow-Testing.

I have a pure-bred Shorthorn that has just dropped her third calf. Last year I weighed her milk and she gave 9,000 lbs. I think she will do better this year. How could I enter this cow for an official test? To whom should I apply and what would be my obligations?
O. A. S.

Ans.—Write the Live Stock Branch Ottawa, for forms and instructions regarding entering your cow in the semi-official or Record of Performance test. This is a yearly test and a Government official visits your place six or eight times during the year and weighs and tests the milk, then compares his weight with what you have marked down previous to his visit. You are not under any obligation other than boarding the man at the time of his visit, and conveying him to the depot. For a strictly official test for 7 or 30 days, or even longer, an official witnesses the milking and does the weighing during the entire test. In this case you would be required to pay and board the man doing the testing.

Mare Perspires Freely.

I have a seven-year-old brood mare due to foal about June 22. She is fed on mixed hay and about two quarts of ground oats and bran daily. She has a heavy coat of hair and perspires freely around the flanks. I have kept a blanket on her all winter on account of the stable being rather cold. Thinking that this was causing her to perspire I removed it recently but it has made no difference. If worked very long the mare appears a little weak. What is the cause of this condition and what treatment would you suggest?
A. L. F.

Ans.—We do not think there is anything seriously wrong with the mare. She cannot stand as much work and is liable to perspire much more freely than a mare which is not in foal. In fact it is quite common for mares to perspire when in this condition without any apparent cause. Do not put her at too heavy work, and feed her carefully. She is hardly receiving enough grain when working. It is well to continue the feeding of bran on account of its laxative nature. If carrots or turnips are available they can safely be fed. As soon as grass comes turn her on pasture during the day.

Mare Fails to Feed Colt.

I have an eleven-year-old mare which raised her first colt very well. The next year the colt was lost through joint-ill when a couple of weeks old. The following year the colt was all right but the mare had no milk for it, consequently the colt died when about four days old. She is again due to foal in about three weeks, but as yet is not showing signs of milk. She is well fed and runs in a roomy box-stall at night. What treatment do you advise, J.R.W.

Ans.—If the mare is properly looked after and is given nourishing feed to stimulate milk production, but fails to give milk to feed her foal there is little that can be done. Try rubbing the udder to stimulate milk secretion. If the mare has no milk the foal may be raised on cow's milk. Choose the milk from a fresh cow. This must be diluted, as mare's milk does not contain as much fat as cow's milk. To a tablespoonful of sugar add warm water to dissolve, then 3 tablespoonfuls of lime water to correct digestive troubles and enough fresh milk, not too rich in fat, to make a pint. Feed about one-quarter of a pint every hour for the first few days always warming it to blood heat. The colt can be fed from an ordinary nursing bottle with a large nipple. As the foal grows the amount of milk can be increased and it does not require to be fed so often. In fact after the first few days 6 feedings are sufficient during the 24 hours. The colt will soon learn to drink from a pail, and when 6 weeks old skim-milk may gradually be substituted for whole milk.

Hard, Dry Soil Can't "Stick" You

This New PETER HAMILTON Stiff Tooth Cultivator works in any kind of soil, no matter how hard or dry. For weed killing and growing big crops, you need the help of a

New PETER HAMILTON Stiff Tooth Cultivator

Surpasses all other implements for Summer-fallow work. Built with extraordinary strength all through, to stand the heaviest work of deep cultivation. Has many special features of improvement, including new relief spring. Write to-day for illustrated circular.

The Peter Hamilton Co., Limited, PETERBOROUGH, ONT.



Agents wanted in open territory

"I could not have done without it this Summer, as help is so scarce"

Here is the experience of one of the scores of dairy farmers for whom the

EMPIRE Mechanical Milker

is taking the place of the farm help they can no longer get, and enabling them to keep their herds together and take advantage of the prevailing high prices.

Gentlemen:— R. R. No. 3, INGERSOLL, ONT.

I have used one of your "Empire Milkiers" since early last April, on from 30 to 45 cows continually, and can find no injurious effects on the cows. They seemed to like it from the first time, and I think gave rather more milk than with the best hand milking. Easy cows seemed less inclined to leak, and hard ones gradually became easier. I have sent the milk a number of years to the Borden Condenser Company, and have had no complaints. I have just followed the instructions for keeping it clean. I could not not have done without it this summer, as help is so scarce. I may say further that I have been milking cows for over 50 years, and have been in the milk business nearly that length of time. I have had no previous experience with milking machines, but have had very little trouble or expense for repairs. I have used it on heifers never milked before, with perfect satisfaction, no matter how small their teats were.

The Milker has been of more practical value to me than I ever expected.
WILLIAM COLYER.

We will be glad to send you Booklets showing exactly how the Empire Mechanical Milker works, and telling the experience which dozens of prominent dairy farmers have had with it. Address Dept. C

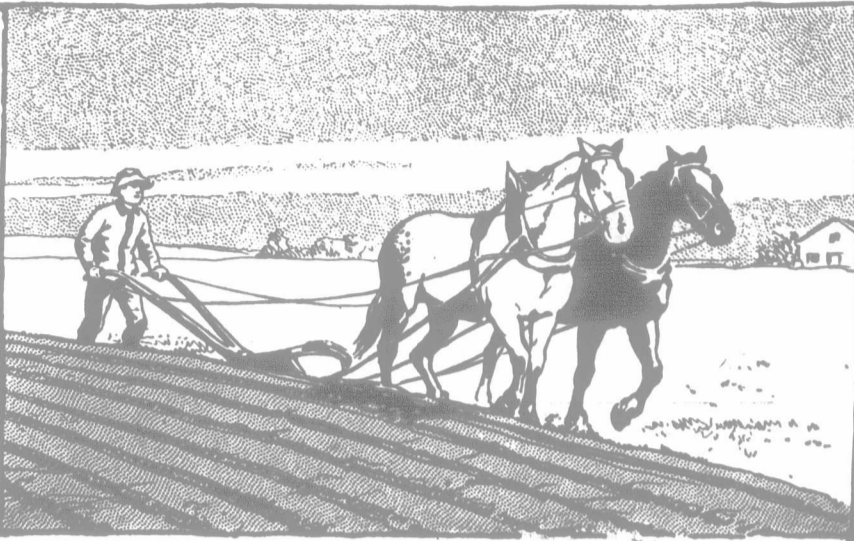
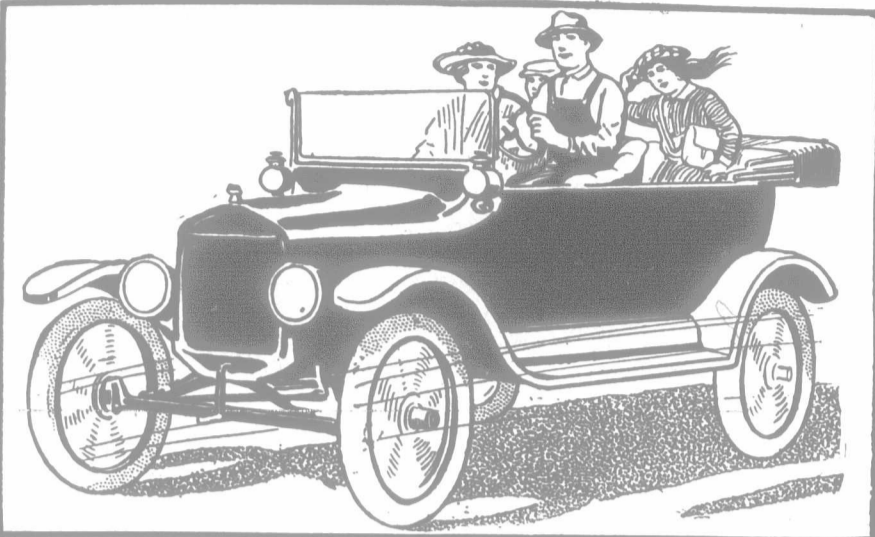
The Empire Cream Separator Co. of Canada, Limited,
58 MONTREAL TORONTO WINNIPEG.

ANNOUNCEMENT
Southdowns and Shropshires

Mr. John D. Larkin has recently added to his flock at Larkin Farms by purchasing from Mr. J. C. Duncan, Manager of the Niagara Stock Farm, Lewiston, N. Y., their entire flocks of well-known Southdown and Shropshire sheep. The breeding and management of these long-established and those who have drawn from these flocks and those who require Southdowns and Shropshires of merit is solicited and complete satisfaction is assured. Address:—
LARKIN FARMS, QUEENSTON, ONTARIO

YORKSHIRES
Litter of fourteen about ready to wean; also a number of older females. Address:
WELDWOOD FARM, Farmer's Advocate, London, - Ontario

ELMHURST LARGE ENGLISH BERKSHIRES
From our recent importation of sows, together with the stock boar, Suddon Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R. R. 1, Brantford, Ont
Langford Station on Brantford and Hamilton Radial.



Save the Horses for Farm Work



THE average farmer has enough work for his horses right on the farm. He can ill spare them to pull a buggy or a phaeton. And his own time is valuable, too. With farm labor so scarce, he cannot afford to spend half a day or a day to drive a horse to town and back, when he can do it in an hour or two in a Ford.

Costs Less

A Ford car soon pays for itself in the time it saves the busy farmer, costs less to run than a horse. It doesn't eat its head off when idle.

Mr. S. M. Smith, of Holstein, Ont., says: "I can run my Ford car more miles with less expense than a horse." His experience is typical of thousands of others.

Mr. W. A. Fallin, of Vermillion, Alberta, states that he has driven his Ford more than 13,000 miles over muddy roads, prairies and fields in every kind of weather. His entire maintenance expense for three years, outside of one set of rear tires has been only \$3.35.

With the cost of running a Ford less than driving a horse, it doesn't seem good business to drive a horse to town and tire him out so that he is not fit for work on the farm the next day, now does it?

Never Tired

That's the great beauty of a Ford! It never gets tired. It whirls you to town and back, or takes the children to school, or your wife to visit a friend, 15 miles down the line, without any slowing up for breath or any urging with a whip. You

don't have to say "gid-dap" to a Ford. And as for hills, well, it scurries over them like a squirrel climbs a tree.

It is as easy to drive a Ford as to drive a horse. It is just the car for country service. Narrow roads or sharp turns do not bother it. It can turn completely around in a very little larger space than a horse and buggy. It is not afraid of a traction engine, a street car, a train or another motor car. It never "shies." It stands without hitching.

The initial cost of a Ford is small—\$495 for the touring car. If you care to sell it at the end of one year, you will find many buyers who will offer you the first price, less \$125. Consider, therefore, how much pleasure you can have in a year for \$125; how many hours of tedious travel, and how much horseflesh you can save. Don't you think it is a good "buy"?

"Ford Times" Free

No progressive farmer can afford not to own a Ford. The more you look into this, and think it over, the more you will realize that it is so. Let us put you on the mailing list for "Ford Times"—our interesting magazine. It will help you in thinking it over.

Touring Car - \$495

Runabout - - \$475

F.O.B FORD, ONTARIO

Ford Motor Company of Canada, Limited

FORD - - - ONTARIO



DRUMMOND CUP WINNERS 1914

One million more sheep wanted from Ontario

Co-operative marketing of wool pays. The Provincial Department of Agriculture, through the Ontario Sheep Breeders' Association, is anxious to assist every sheep-grower to place this season's clip upon the market, so that it will bring the greatest return to the Producer, and will also be of the greatest value to the Manufacturer.

Quality and freedom from foreign material are the factors governing comparative prices for fleeces.

Modern methods of selling the product, breeding the sheep, and caring for the sheep, mean greater profits.

Ontario is the great sheep centre of Canada—the introduction of co-operative marketing of wool will arouse interest, and if other approved methods are adopted the sheep population will again rapidly increase.

Ontario now raises 1,000,000 sheep, and we should produce 2,000,000 sheep. Modern methods will supply the necessary impetus.

The consumption of lamb and mutton in Ontario is increasing—too great a part of this is imported. Too much cash is sent away for foodstuffs which should be raised in Ontario!

Every sheep-raiser is asked to co-operate in the movement for more sheep, and better sheep throughout Ontario.

Study these ideas for more profit in marketing wool:

Old Way—Wool was often tied with binder twine, yarn, cotton cord, wire, wool rope, and some was not tied at all.

New Way—Wool is all tied with paper twine, which disappears during the manufacturing process.

Old Way—Some sheep were washed, and many were shorn without washing, and in many cases the wool was tub-washed after shearing. Tub-washing actually decreased the value of the wool, because all the qualities of a single fleece became so mixed that sorting was impossible.

New Way—The sheep are not washed, and the wool is delivered just as it comes from the sheep.

Old Way—The wool of high grade was sold for the same price as that paid for low grades.

New Way—All fleeces are graded by an expert, and the quality determines the comparative price.

Old Way—The farmer did not know the real value of the wool. The purchaser assumed unnecessary risks.

New Way—The seller and the purchaser thoroughly understand the transaction.

Old Way—The farmer who bred good sheep, kept them clean, and fed them well, sold his wool at a disadvantage.

New Way—Breeding, feeding and care are paid for when the quality system is used.

Old Way—The actual value of the wool was decreased too often.

New Way—The actual value is increased, because the manufacturer has the opportunity to use every pound of wool for the proper grades of material.

Old Way—Distrust and suspicion were aroused.

New Way—Confidence and co-operation appear. The producer and consumer are drawn closer together.

Results on the Farm

- (1) Sheep raising will become more attractive.
- (2) In many cases sheep will be better fed and generally better cared for.
- (3) More pure-bred rams will be used.
- (4) The quality of the wool and mutton will be raised to a higher standard.
- (5) More farmers will consider sheep-raising as a part of the regular farming operations.
- (6) There will be less weeds to go to seed.

This is a farmer's movement. The sheep industry in Ontario has been growing smaller. Your support is necessary in order that this important industry will receive the impetus it deserves. Quality and quantity are the points of emphasis.

Conditions Under Which Wool Shall be Accepted by the Ontario Sheep Breeders' Association:

- (1) Application forms should be received in the Secretary's Office, Parliament Buildings, Toronto, not later than April, 23rd, 1917.

Ontario Department of Agriculture

Parliament Buildings, TORONTO
SIR WM. H. HEARST
Minister of Agriculture

G. C. CREELMAN
Commissioner of Agriculture



ONTARIO

(2) Shearing should be completed so that wool may be received at the Winter Fair Building, Guelph, between May 15th and June 11th, 1917.

(3) Wool must not be tub-washed, but shipped in the natural grease condition.

(4) The fleece should be placed with the clipped surface down. Then fold in the sides and roll from each end to the centre, after having carefully removed the dung locks, and then tie with paper wool twine. Never tie fleece with sisal or ordinary binder twine, and avoid tying with neck portion. The dung locks should be placed in a separate sack from the fleeces.

(5) The fleeces should then be packed in wool sacks, which, along with the twine, shall be supplied by the Association through the District Representatives, or some central agency.

(6) The wool must be kept in a dry condition, both before and after placing in the sack, or otherwise it will be refused by the Association.

(7) Shipping tags shall also be supplied by the Association, with consignor's name typewritten upon tags, and also destination of consignment. These tags must be firmly attached to the wool sacks before shipping, extra bags to be placed inside sack for identification purposes.

(8) The wool is to be sent by freight, prepaid, addressed to R. W. WADE, Winter Fair Buildings, Guelph.

(9) The wool will be graded by wool experts of the Live Stock Branch, Ottawa, and will be sold by tender, or otherwise, through the medium of the Ontario Sheep Breeders' Association, as early as possible after grading is completed, which should not be later than June 18th.

(10) The grader's grades and the Association weights must be accepted.

(11) A charge of 15c. per fleece will be retained by the Ontario Sheep Breeders' Association to cover expenses.

If you have not received a circular, enquire from your District Representative, or from R. W. WADE, Parliament Buildings, Toronto, Ontario

There is big money in modern methods