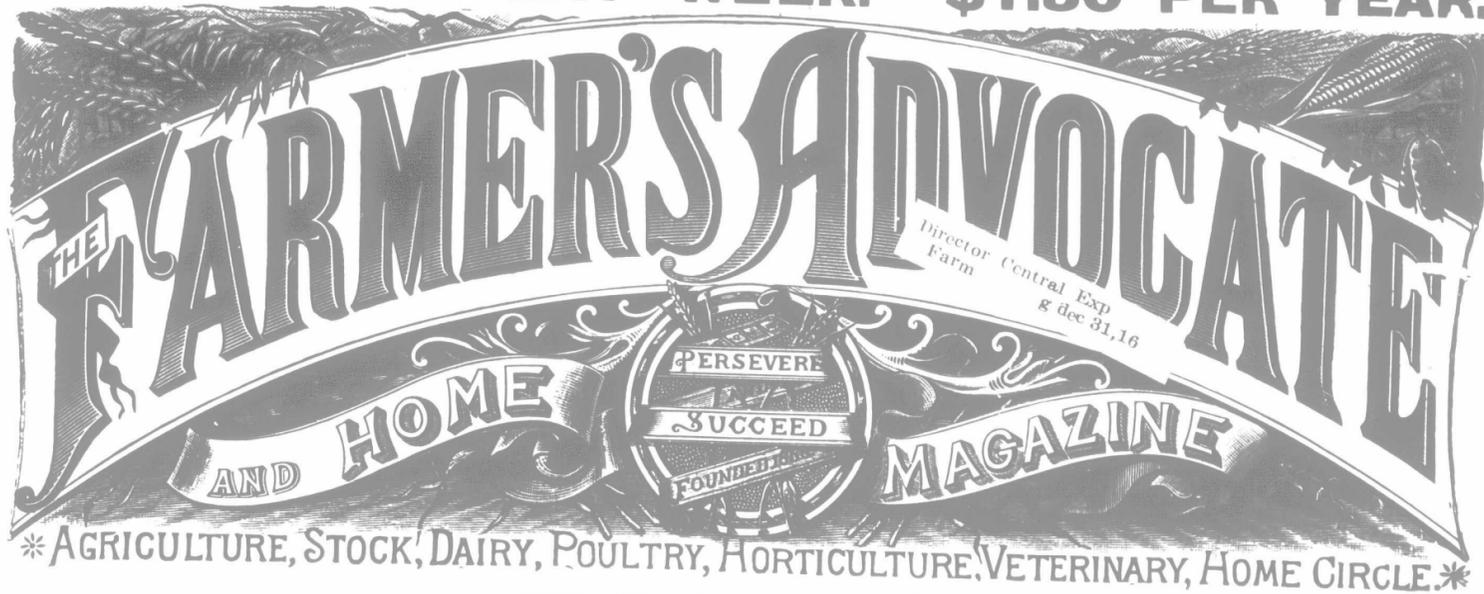


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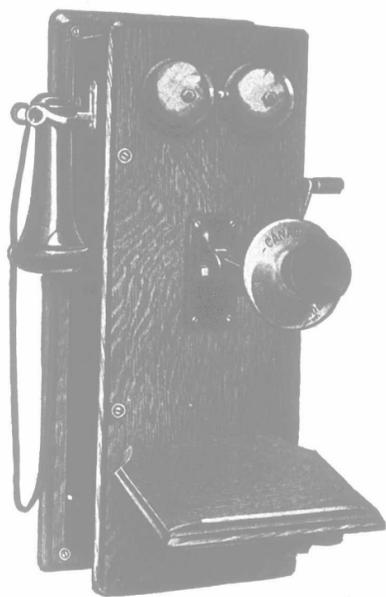


VOL. LI.

ENTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1916.
LONDON, ONTARIO, APRIL 27, 1916.

No. 1231

The scarcer the help, the more necessary the telephone



A New Bulletin

We have just had printed a new bulletin which contains all the latest information about modern rural telephones. It explains our telephones thoroughly, and in a way that anyone can readily understand. Write for Bulletin No. 6.

FARM labor is scarcer this year than ever before. Under these conditions, telephone service becomes more and more an everyday necessity. Its value as a time-saver, when farmers require every minute of their time, should be worth the cost of the service several times over this year. If your locality is without telephones, now is the time to build a system

Ontario Telephone Act

The Ontario Telephone Act makes it very easy for any municipality, not enjoying telephone service, to establish a local or municipal system. We will furnish full particulars about this on request.

We will furnish you names of different local and municipal companies that are using our telephones on their lines, and have demonstrated their superior quality in comparison with others.

Canadian Independent Rural Telephones are the highest grade, most durable, cost the least for maintenance. They are built right here in Canada by an INDEPENDENT company—built to give the best quality of telephone service. The prices are RIGHT, too.

Guaranteed

Our telephones are guaranteed for 10 years against defects in material and workmanship. That shows our confidence in our telephones, and also enables telephone systems to purchase them without any risk of securing poor instruments. Our construction materials are also guaranteed first quality.

If construction materials are required in a hurry, we can supply them promptly. We carry a large stock of all kinds. Write for Price List.

Canadian Independent Telephone Co.

LIMITED.

261 Adelaide Street West, Toronto

PINE TREE BRAND



IT STANDS ALONE
PINE TREE BRAND SEED
Produces heavy yields and clean crops

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Timothy - Clover - Alfalfa

The valuable Inoculating Material
NOD-O-GEN is FREE
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I thrive on hard work—just "eat it up"—and it costs but a trifle to keep me hustling at the hardest work. I will give you perfect service because I am one of the famous

GILSON "Goes Like Sixty"

Engines—the line that exactly meets every farm need with a high quality engine at a low price. It will pay you to write for full particulars of Gilson "Goes Like Sixty" Engines.

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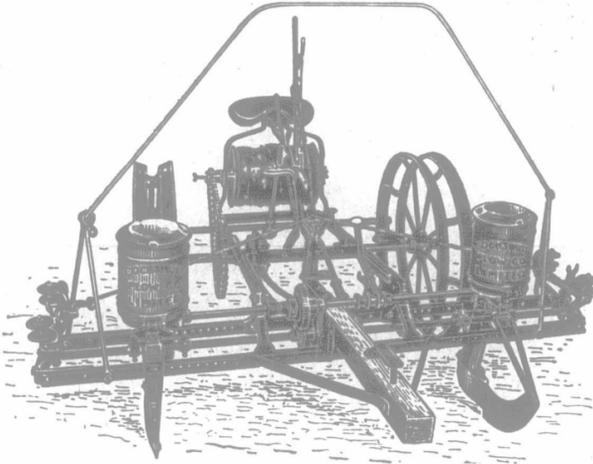
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Write for samples of Interprovincial Pressed Brick, for facing your buildings. Great strength, clean sharp edges and careful finish ensure durability and most pleasing appearance. Write TO-DAY for samples.

Interprovincial Brick
Company of Canada, Limited
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Machine



Every Corn Planting Problem Solved



The Cockshutt Corn Planter is one of the most ingenious and highly-perfected implements we sell. Its big asset is its flexibility. It will plant your corn any way you want it, and every way is done right.

Another big asset, common to all Cockshutt implements, is its ease of operation. Easily-worked hand and foot levers convenient to driver give you complete control, while the draft is light, and the work is easy on the horses.

There is big money in Corn. The biggest job is getting it planted quickly and right. Here is the implement to do it for you.

THE COCKSHUTT CORN PLANTER

Planting corn is often sorely wasteful of time and seed. The farmer who wants to raise corn on a profitable scale will find the quick, accurate, "brainless" work of the Cockshutt Corn Planter a splendid help. Its variable drop feed allows 2, 3 or 4 kernels per hill—a touch of the foot lever changing the count. Corn never jams or crushes. Will plant in rows instead of hills if desired. Fertilizer can also be drilled

along with seed by a simple attachment.

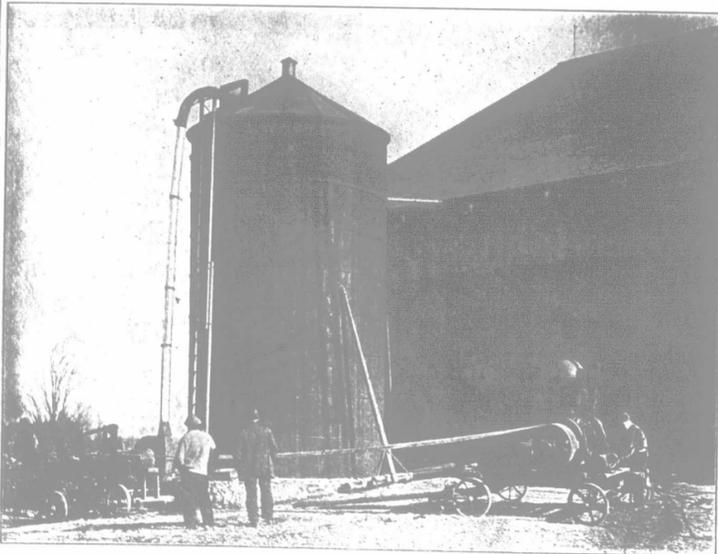
Built very strong and rigid, yet light in draft and very simple to run, and permitting fast work without attention. Keep the seed boxes full, and the operator has nothing to do but drive and set his stakes. Many important Government and big Corn Growers' Tests and ideas have been worked out in this splendid implement.

You ought to write our nearest Branch to-day for our special Corn and Corn Planting book. It's free.

The **COCKSHUTT PLOW CO.** Sold in Eastern Ontario, Quebec, and Maritime Provinces by
LIMITED BRANTFORD, ONT. The **FROST & WOOD CO.** LIMITED Montreal, SMITH'S FALLS, St. John

FILLING A LISTER SILO

With a Lister Ensilage Cutter Operated by a Lister Gasoline Engine



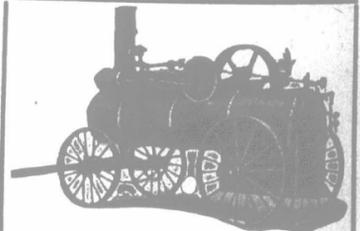
The Complete Outfit

Mr. R. McEbery, of Elm, not only filled his silo, but also filled a considerable number of silos for his neighbors. Write for booklets, what he thinks of his outfit.

Write for Catalogues to Page 6.

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Rebuilt Portable and Traction Engines and Threshers

All sizes for sale cheap. Complete threshing outfit, traction engine with cab, separator, wind stacker, in good operative condition.....

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1887-1916

S. F. M. O'FLYNN & SON
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Change all this - by using this

There's no reason why farmers and their families shouldn't be as comfortable during the winter months as the man in the city. HE uses Gurney-Oxford Hot Water Heating. Old fashioned heating causes worry, argument, fuss, dirt, ashes, muddy carpets, ill-health and needless expense. Why continue at the mercy of the weather with its shut-off rooms, drafty floors, ice-cold halls and bed-rooms? Give the new and better way of heating a chance - read about it in our new booklet "City Comfort for Country Homes."

Don't spend another winter huddled around the kitchen stove. It isn't healthy, it isn't fair to the family, it is sure to cost too much money in doctors' bills.

Gurney-Oxford-Hot Water Heating

Comfort at 6 a.m.

Means comfort, means the balmy, natural warmth of a beautiful September day in every room in the house, every hour of the twenty-four. It improves your home tremendously, and makes it the envy of your neighbors. Shows you are up-to-date. Gurney-Oxford Hot Water Heating is the most even and most healthy kind of heat, because it warms the air without drying it out. Only one fire needed in the whole house. No water system is needed—all you do is put a few buckets of water into the pipes and radiators in the Fall and it lasts till Spring.



The Gurney-Oxford Boiler, pipes, valves, fittings, etc., for a house like this, with 315 feet of radiation, costs \$255 F.O.B. Toronto. At this price any reputable fitter can supply the materials, the labor and freight being moderate extras.

The Gurney-Oxford Boiler, the most scientific and economical one built, is fitted with our patented "Economizer," which enables anyone, at a touch, to regulate the temperature to suit a sudden cold or mild spell outdoors. The Boiler burns either coal or up to 40-inch wood as you select.

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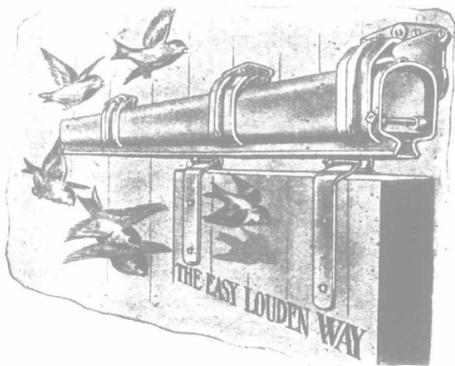


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BARN DOOR HANGERS

Give perfect service the year round. A child can open a door hung with them. They cannot be clogged in anyway, either by nesting birds or trash in Summer, nor by snow, sleet or ice in Winter.

Louden Bird Proof Barn Door Hangers

Three kinds, Regular, Adjustable and Swivel. The Regular Hanger fills the bill in most cases, the Adjustable where both lateral and vertical adjustment of the doors is necessary, and the Swivel where there is not room to hang the track in the usual way. The trolleys in each case have Roller Bearings, and are made for use with

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The enclosed track, made from sheets of 14 gauge special steel pressed into tubular shape. Carries the heaviest of doors without sagging. Smooth running surface, free from obstruction winter and summer. The trolleys run inside, and cannot become derailed. Complete protection from the troubles common with ordinary tracks and hangers.

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Settle the Silo Question

—and settle it for good. Do away with repairs, with tightening of lugs and adjusting of hoops. Know that your silo won't blow over. Be sure of perfect silage at all times. Build the worryless, efficient



Permanency and Prosperity! Note the Hollow Tile Barn and Silo. They will "Last for Generations."

Natco Imperishable Silo "The Silo that Lasts for Generations"

Its hollow, vitrified, clay tile are impervious to air and moisture—they preserve the silage sweet and juicy. The dead air spaces in the wall resist frost—making it the silo for severe climates. The continuous, reinforcing bands laid in the mortar hold it in a grasp of steel. It is a silo of efficiency, and a silo you'll be proud of. Send for our silo catalog describing it fully.

Also get our splendid new book, "Natco On The Farm," describing other farm buildings made of Natco Hollow Tile and just as efficient. Both books free. We have many farm building plans to submit, and will help you solve your building problems, free. What are you going to build? Let's hear from you. Write today.

National Fire Proofing Company

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Natco Silo Wall. Note perforated shell, providing firm anchorage for mortar joints.

The Windsor Gasoline Engine

BUILT FOR YEARS HAS BEEN THOROUGHLY TRIED NEVER FOUND WANTING

It is easy to start, full of power, economical and thoroughly practical in every respect. It is fully guaranteed for the manufacturer and by us, so long as power developed and so on

durability. You are taking no chances in trying a WINDSOR.

To introduce it speedily to the Canadian trade, we are making special prices, as follows:

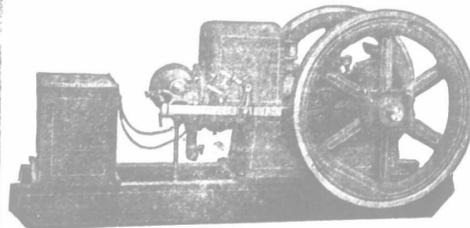
1 1/2 horse-power, on skids \$36.42

2 1/2 " " " 52.95

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Send for catalogue and full description.



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LIFE INSURANCE FOR YOUR HOUSE

Unpainted wood means decay. Not to paint your house, means a constant expense for repairs. Paint protects against wear and weather. When you take out our "100% Pure Policy", your house is insured against decay. Such paint protection resists the destructive effects of climate and temperature, besides adding beauty and distinction to the home and value to your whole property.

MARTIN-SENOUR "100% PURE" PAINT

means life insurance for your home. The genuine White Lead, Oxide of Zinc, Pure Colors and Linseed Oil—ground to extreme fineness by powerful machinery—form a combination that protects against decay. "100% Pure" Paint makes protection sure. It spreads easily, covers completely and is the cheapest in the end because it covers more space per gallon. In all colors for spring painting.

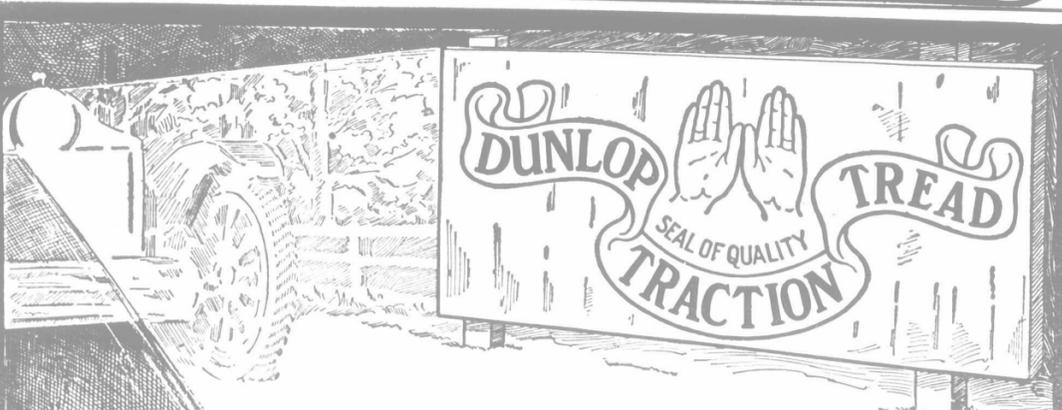
Write for a copy of our amusing book, "The House That Jack Built". It's full of pictures, rhymes and reason, that you will enjoy as well as the children. We'll also give you the name of our nearest dealer-agent.

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The MARTIN-SENOUR Co.

LIMITED

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"MOST ENVIED TIRE IN ALL AMERICA"

- Most Durability in Service
- Most Immunity from Rim-Cuts
- Most Reliability in Danger
- Most Absence of Dust
- Most Freedom from Punctures
- Most Inches of Air-Capacity

These are some of the reasons for calling DUNLOP TRACTION TREAD "MOST ENVIED TIRE IN ALL AMERICA."

S.T. 114



A handy book on home decoration

(With furnished rooms in colors)

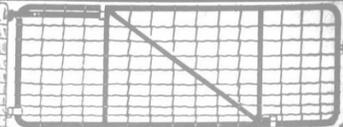
Think of the time saved in worry and experimenting. Think of the possibility of avoiding serious mistakes. Some of the sub-headings show just how practical this book is: "The Influence of Color"; "Light and Shade"; "Harmony in Colors—How to get the Right Effect"; "Value of Conventional Designs"; "Plain Tinting"; "Color Values."

Alabastine

Sanitary Wall Tints
If you are going to decorate a room or your whole home, enclose 15 cents in coin or stamps and get a copy of "Homes Healthful and Beautiful." It gives many a useful hint for the treatment of bedroom, living-room, dining-room, halls, parlor, including even the kitchen.

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PEERLESS Farm Gates



THERE is no guess work in the manufacture of Peerless gates. The points of greatest strain are scientifically calculated and then we design braces, stronger than actually necessary, to make our gates stiff and rigid—they simply

Can't Sag or Twist
They embody only the best materials. Frame-work of 1 1/2 inch steel tubing electrically welded together. Peerless pipe braced gates are all filled with No. 9 Open Hearth galvanized steel wire—built for strength and durability weather proof and stock proof.
Send for free catalog. Ask about our farm and poultry fencing, also our ornamental fence and gates. Agents nearly everywhere. Agents wanted in open territory.

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Steel Rails

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CUT ANY LENGTH
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The Ge

WE have "Six" duce as r cream and without S cows would for both so th the first year every six cows a Silo v twenty. If a S per cent. rev are going to ge ment, you can

Wooder
THE only r about bu not sure whic experience is i preference to an material. Our information wit it shows why brick, cement, Glad to send it —NOW.

14 Reason

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- built like our fan
- we make 90 per ce



Ontario
93 A

Branches :

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The Man Who Buys This Silo Gets Two Cows FREE

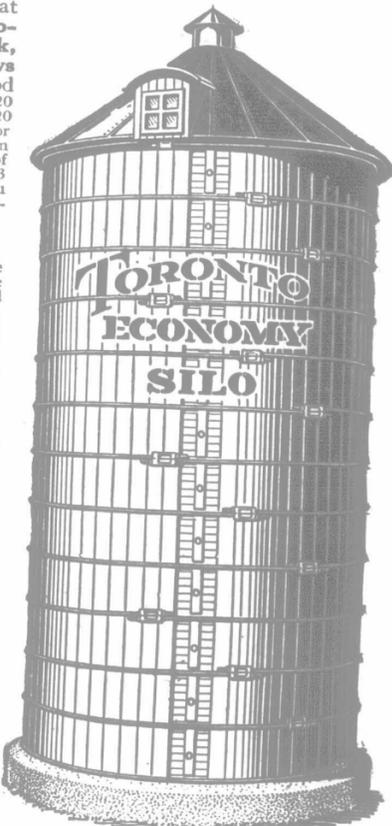
WE have authority for saying that "Six Cows fed on Silage produce as much revenue in milk, cream and butter, as eight cows without Silage." Two more good cows would cost you \$110 each or \$220 for both so this Silo would pay you back \$220 the first year or the value of two new cows for every six cows you own. If you own fifteen cows, a Silo would give you the revenue of twenty. If a Silo gives you an increase of 33 per cent. revenue every year you use it, you are going to get one, of course. As an investment, you cannot beat it.

Wooden Silos Preferred

THE only reason most farmers hesitate about buying a Silo is that they are not sure which Silo to buy. The general experience is in favor of Wooden Silos in preference to any manufactured or home-made material. Our SILO BOOK gives useful Silo information with full particulars of our line. It shows why wood is better for Silos than brick, cement, tile or any other material. Glad to send it to you free. Write for it—NOW.

14 Reasons Why This Silo Should Be Yours

- (1) Made of two-inch selected White Spruce;
- (2) staves double tongued and grooved;
- (3) all wood parts creosoted which prevents rotting and shrinking and makes it acid proof;
- (4) steel splines in end of staves, making strong, airtight joints;
- (5) hoops, special steel, bent to fit, three bottom hoops 3/4 inch;
- (6) malleable iron lugs, frost proof;
- (7) special wrench supplied for tightening hoops;
- (8) doors fit perfectly, frame bevelled and rabbetted to make absolutely air-tight, doors close with three bearings on frame, each door fitted with adjusting door clamp;
- (9) doors can be instantly taken out or replaced;
- (10) window at top placed to allow entrance while filling;
- (11) roof provided with three supporting roof rings, with proper slope for rapid rain-shed, covered with high-grade waterproof roofing;
- (12) galvanized iron ventilator;
- (13) the location of window permitting a ton or two more storage capacity than ordinarily;
- (14) built like our famous Sprinkler Tanks, of which we make 90 per cent. of all used in this country.



Silo Blower Silage Machinery
Let us sell you all the equipment for your Silage work. Engines and Blowers of best type and most reliable performance.

THE Toronto Economy Silo is built high grade and extra strong and with extra care. We are prepared to show any prospective buyer that he can save money and have sweeter, better-conditioned Silage by buying his Silo from us.

Write Today for Silo Catalog

Ontario Wind Engine and Pump Co., Limited

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Branches: MONTREAL WINNIPEG REGINA CALGARY

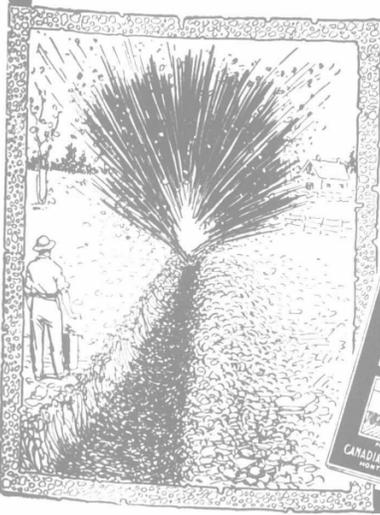
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Drain the marshes, irrigate the barren section of your farm, make your land pay a profit.

C.X.L. Stumping Powder

makes ditching easy and enables one man to do the work of ten.

Use C. X. L. Stumping Powder to blow out the stumps and boulders—to plant fruit trees, to break up sub-soil that the plows cannot reach. It's cheaper and saves time and labor. Safe as gun powder.



There is money in agricultural blasting. Send for our free booklet "Farming With Dynamite".

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The Lily Bowl Gets the Cream

CREAM is worth too much to waste, yet it is being wasted by the ton every day by old-fashioned methods of skimming. Today there is no excuse for such waste. The Lily bowl gets all the cream it is possible to get, leaving only a drop or so to the gallon of skimmed milk.

Let's take a close look at this wonderful bowl. It is compact and convenient to handle. It lifts off the spindle, leaving the spindle in the separator where it belongs. It comes apart easily, but it can't leak. The disks provide a greater skimming surface than is found in other bowls. Combined with them are six cream gatherers—just twice the number other separators have. Separation begins the instant the milk enters the bowl, and there is always a clear passageway for the cream.

There is not even a cream regulating screw in the cream passageway. You make your cream thicker or thinner by regulating the amount of milk mixed with it, but thick or thin, you get all the cream when you use a Lily cream separator.

The bowl is not the only good Lily feature. The McCormick local agent, who sells Lily cream separators, will show you how every other feature is worked out just as carefully. See him or write us at the nearest branch house.

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BRANCH HOUSES
At Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton

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WHAT looks like a saving in first cost, may in a few years prove a big expense. Paroid Roofing is so carefully made of tested materials, you avoid the repair bills that add heavily to the cost of a cheap roof. The first Paroid Roofs laid 18 years ago are still in good condition.

Look for the Paroid Roll

NEPONSET Paroid ROOFING

can be laid by yourself and your farm help so that in the wildest gale, the heaviest rain or snow storm, or while fire is raging, you need know no anxiety for your Paroid Roofs. Paroid is the roofing that will save you money. Made in Red, Grey and Green.

Look for the Paroid roll, by it you will know one of the 2,000 Neponset dealers in Canada.

Write for copy of "Repairing and Building"—FREE on request.
Try Neponset Wall Board in place of lumber, or laths and plaster—you'll like it.

BIRD & SON Dept. B
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Warehouses in Winnipeg, Calgary, Vancouver, Montreal, Halifax, St. John, Edmonton.
The Largest Manufacturers of Roofings, Wall Boards, and Roofing Felts in Canada.

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New Ontario

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ANY farmer who is using an Alpha will tell you that this engine is a great help to him and that he can absolutely rely on it. The Alpha is a steady, powerful engine that will do a great number of big and little jobs on your farm that now cost you too much in time and labor. You can make your work easier, get it done quicker and save money by using an Alpha.

The Alpha is a smooth running, powerful engine that has proved its value to thousands of farmers in all parts of Canada. It is a reliable engine. You can always depend upon its being in good working order when you want to use it. There are no complicated parts to get out of order and cause time-wasting delays and expensive repairs. Ask Alpha Engine users. What they tell you will be proof of Alpha superiority.

The Alpha starts and runs on a simple magneto. You get a hot, fat spark at all times. You are never troubled with weak batteries. You can use kerosene or gasoline for fuel. The fuel consumption and speed of the engine are accurately controlled by a reliable, sensitive governor. This governor acts the instant there is the slightest variation in the load. Therefore, the engine runs steadily at all times and there is no waste of fuel. The Alpha is not affected by cold weather.

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Alpha engines are made in eleven sizes—2 to 28 H. P. —each furnished in stationary, semi-portable or portable style with hopper or tank cooled cylinder.

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MONTREAL PETERBORO WINNIPEG VANCOUVER



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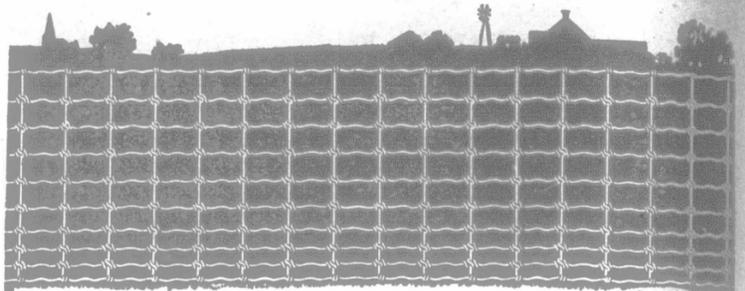
Well for one thing, you could buy a %5 Mortgage Debenture of the Standard Reliance Mortgage Corporation. A \$1,000 Debenture at 5% for five years, pays (if compounded) \$280 in interest or a gain of 28%. It is one of the safest, if not the safest, investment obtainable.

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Well, Sir, that's some fence

Because of its simplicity and amazing strength, "Ideal" Fence excites the admiration of every practical mind. "Some fence" is right. Take a look at it—

Ideal Fence

Notice how the Ideal lock takes a "grape-vine" grip of the upright and cross wires in a strong, even, uniform pressure. There are no sharp angular turns to break the surface of the wire and weaken the grip of the lock. Yet it grips, as you see, the wires in *five* places—twice on the upright, twice on the horizontal and again where the two wires cross. Thus, while it positively prevents either wire from slipping, it allows just enough play so the fence can be erected on hilly ground without kinking the line wires. At the same time, it keeps the uprights perfectly straight. You wonder why Ideal Fences are so free of broken or bent uprights; well, that's the reason.

May we send you a copy of our catalogue which tells the whole story in a factful interesting way? A post card will bring it promptly.

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These Honest, Time-Tried Ingredients—



are the bulwark of RAMSAY QUALITY

In RAMSAY PAINT you get the most accurate and thorough combination of approved raw materials. Master painters will tell you no better materials exist. Your own good judgment will tell you that scientific machine mixing is superior to guess-work and "hand padding."

Specify Ramsay for your next big-job—and for the odd jobs you do yourself get the right Ramsay finish. Splendid service from the local Ramsay dealer or write the manufacturers.

A. RAMSAY & SON CO. (Established 1842) MONTREAL, Que.
 Branches at Toronto and Vancouver.
FOR SALE BY ALL DEALERS.

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makes houses warm in winter, cool in summer, dry and comfortable always. Made of heavy Asphalt-Mastic, surfaced on one side with tough sulphite fibre board, and reinforced on the other side with No. 1 kiln-dried lath uniformly spaced. Comes in sheets 4 feet wide, any length, ready to be applied direct to studding or ceiling joists by any carpenter or handy man. Gives handsome panelled effects.

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The Farmer's Advocate and Home Magazine

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LONDON, ONTARIO, APRIL 27, 1916.

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EDITORIAL.

Clover pasturage produces pork at greatest profit.

Plant your corn according to the story told by the test.

A small garden well kept is more profitable than a half-acre of weeds.

Grow what your land grows best, rather than jump to new crops all at once.

Sow the mangels as soon as possible, but put them in soil that is ready for the seed.

When seeding is finished, the drill would be better in the barn than in a fence corner.

Grow more potatoes if you can manage to do so. An article in this issue may help you.

What a pity the shell that demolished the Kaiser's car had not destroyed the War Lord himself!

The price of pork has been high enough that the feeder could afford to make hogs of his pigs.

Save the grass by keeping the stock stabled and yarded until May 10 to 20, according to district.

When laying out the lawn, remember that to be an attractive lawn it must be cut regularly. Make it small.

Sheep and lambs should be dipped before going to pasture. An outline of the methods and practice is given in this issue.

The horse business is not flourishing; still, if you have a first-class draft mare, you can ill afford not to breed her this year.

The Canadian farmer is ready to produce all he can under the circumstances. He cannot enlist and produce at the same time.

The German leaders seem to think Verdun is of great importance—otherwise they value the lives of their soldiers at very little.

Do not plow the manure down too deeply on corn and root ground. Its fertilizing ingredients will go too deep for the plants soon enough.

The call for greater farm production and the bugle call for overseas service seem to conflict a little. Can our Government not tell us which is which?

"Let us cease thinking so much of agricultural education, and devote ourselves to educational agriculture. So will the nation be made strong."—HERBERT QUICK.

Save the heifer calves. Fewer men on the farms means more grass, and more grass means more cattle. Get them the safest way by keeping the best of your own breeding.

If the time spent in displays of partizan distrust and political manoeuvring in parliament were devoted to the straightforward transaction of business, the country would be millions of dollars ahead, nine-tenths of the royal commissions would be out of business, and legislators would rise about one hundred per cent. in the estimation of the public.

What of the Rural School!

A country's most valuable asset is its boys and girls. Canada, essentially an agricultural country, should be most interested in the welfare of the boys and girls of the rural districts, because Canada has a preponderance of rural dwellers. The greatest need of these boys and girls is an education that will make thinkers of them and equip them to make a living and to get the most out of life. It is more important that the boy and the girl are able, through the training which their young minds should get, to go out in the world and use their heads, than it is that their early education be slurred over while father and mother work their finger nails off to get a farm for each of them. How many boys and girls are there but would rather have early training, or education, which would fit them to think in such a way and to act in accordance with their thoughts so that they could make the money to buy the farm themselves, than would do without the education and take the farm which father and mother had slaved and saved to buy and pay for! The question is: Are our rural schools, as at present organized, in the best possible position to give the boy and girl the training necessary to make the kind of thinkers out of them that will enable them to get most out of life financially and in every other way? If the rural school is equipped as it should be, then the city school must be over-equipped, and we would not for one moment admit the latter. City schools are graded schools, usually with a competent man or woman as principal, and who has a thoroughly efficient staff of teachers for all grades. The city boy and girl now have the advantage of an elaborate equipment for technical education, and what has the farm boy and girl to correspond with these advantages? Are you satisfied that your boys and girls be handicapped, as compared with the city boys and girls? Is it fair to the child of the farm that the little old red school house on the hill, presided over by a girl in her teens, who has the entire school to look after and who, very often, has very little sympathy for agriculture and very little time or opportunity to teach it, should be, as it is, the early training ground of the young minds of the country? Is it fair to the child to entrust his or her training to a person to whom the trustees are often unwilling to pay a salary as high as that which they give the man who feeds their milk cows for records at home, or fits their prize cattle for exhibition or market? Canada has universities, colleges, special schools, agricultural colleges, second to none in America. Short course systems have been devised and perfected. Technical schools of an elaborate nature have been built and equipped in towns and cities, but still our educational system is incomplete and inadequate. What chance have children in the rural communities of getting elementary instruction in agricultural science, in mechanics, knowledge of which is so necessary in this twentieth century, in domestic science, which the farm girl has just as good a right and just as much need to study as any other girl? The isolated rural school with its girl teacher and its fifteen or twenty-five pupils, as constituted at the present time, cannot accomplish what it should for the boys and girls of the farm. The only apparent remedy is consolidation, and we believe that if the fathers and mothers, particularly the mothers, living in the rural districts want it, they can get it. They can have their schools presided over by men and women who have had special training in their particular line. They can have graded schools and their children can have the advantages of training in domestic science and technical education on a par with that given in city schools, and, even better, for opportunities are greater in the country. It may or may not mean a little extra expense, but the best equipment the boys and girls of this country can get is a thorough, elemen-

tary education which trains them to think, and no farm father or mother should be satisfied unless their boys and girls are getting that education. Put a little of the energy devoted to saving money to add another farm to the holding into securing for the boys and girls raised on the farm in this old province a broader and better elementary education as a start in life, and the boys and girls will get the money to buy their own farms when they have sufficiently advanced in years, and will have an outlook on life which is impossible to the boy and girl who have not had such education. Will consolidation of schools do these things? Our columns are open for discussion of the subject, and we purpose elaborating upon it in future issues.

A Freshet of Frightfulness!

With the coming in of spring, when a dormant world revives to beauty and productiveness, the German Terror assumed, if that were possible, fresh frightfulness on sea and land. For long weeks and weeks, in one of the most desperate and stubborn battles of all history, a million men have been fighting at Verdun, and, amid the roar of 6,000 cannon, the soldiers of France have struggled, with undaunted heroism, against the invaders of the Republic. Military experts described it as a culminating effort to strike a fateful blow before the vast gathering armies of the Anglo-Allies were let loose upon the foe as the snows disappear and the earth hardens over the far extended battle lines. On the Eastern front, from Riga to Galicia, the Russian forces have been re-organized and re-equipped for another titanic conflict. In their mountain warfare, where the Italians have been taking point after point, but latterly snow bound, their advances are to begin down grade across the lower mountains and into the Austrian plains. Strong Anglo-French forces at Salonica are reported prepared for a drive, and, realizing that she would be assaulted simultaneously on all fronts, Germany struck at her greatest danger point of Verdun—where a spectacular success might rally the nation. She inaugurated a more terrible submarine warfare and Zeppelin raids, resulting chiefly, in England and Scotland, in the destruction of homes and the murder of women and children. If this be the Kaiser's conception of a prelude to peace negotiations secretly desired by Germany, leaving the War Lords with a navy intact and stolen and outraged European lands in their possession to dicker with, they surely misjudge humanity and the spirit and purposes of the Allies.

Let the Horses Do the Hoeing.

To the average farmer corn and root ground means extra work. The acreage of roots has dwindled during the past few years, largely because of the scarcity of labor and of the amount of work that was absolutely essential to produce the crop. Corn has taken their place. Some of our best feeders believe that cattle, and other stock, do better on a roughage ration which contains roots and corn silage than they do on either alone, but corn has gained prominence through the comparative ease with which it may be cultivated during the summer and because the silo may be filled by a little co-operative effort on the part of neighbors, and the feed is all cut and ready for the stock at short notice. In preparing the land for corn and roots this spring we would advise a little extra cultivation to do away with the weeds by horse power rather than leave them to be handled later on when the crop is growing. Mangels are generally considered a "dirty" crop. We have seen fields very well cleaned by being cultivated thoroughly in the spring and left lay about a week before the mangels are sown, then cultivated and harrowed again. To get rid of hoeing this year is a good practice, and it is well not to plow the ground in the

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spring, but to cultivate the top to get it cleaned before the mangels are sown, and then sow with the grain drill on the flat. The same could be done with turnips, only more cultivation should be given, as it is not necessary to sow turnips before June 10 or June 20. Turnip land is generally the better of being plowed once or twice and thoroughly worked and cleaned before the crop goes in. Corn should go in soon after mangels, but it would generally be advisable to put a little extra work on the field both from the standpoint of cultivation and from that of killing the weeds before the corn is planted, and if there is any danger of the field being dirty, planting in hills by the check-row system should be practiced so that the cultivation can all or nearly all be done with horses. There will be less time to hoe this year than for many years. Plans should be laid to do most of the work ordinarily done with the hoe with horse-drawn implements, and now is the time to make these plans.

All Together for 1916!

Our Scottish letter, this week, is written in none too optimistic tones. Natural conditions in the British Isles, particularly in Scotland, have not been favorable during the past winter. It has been a rough winter and at the time the letter referred to was written, March 28, the season was described as being from six to seven weeks behind and farmers in Scotland were becoming anxious. All spring operations were very much delayed and blizzards were still raging. The labor shortage is being keenly felt in that country, even more so than in Canada, and hay was described as selling from fifty to sixty dollars per ton, and was necessary to carry the flocks and other stock until grass was plentiful. We are simply mentioning this to draw the attention of readers to the importance of production in Canada this year. It may be that the Motherland will find great difficulty in producing a maximum crop this season, and it is the duty of Canadians to put forth every effort to increase, if possible, the output of their farms this year. We would also like to draw the attention of our military authorities to the importance of production in this country this year. There may be some food for thought, even for the most ardent military man in Canada, in what "Scotland Yet" said of conditions in the Old Land,

By growing more wheat, more barley, more oats, more corn, and more roots per acre this year to be turned into more flour, more beef, more pork, more mutton and more milk and its products, Canadian farmers may be doing a bigger bit than they themselves, and the military men as well, realize. Wars cannot be fought and won unless the armies are supplied and well fed. It begins to look more and more as if the men who are absolutely needed to work the land and who do their best on the land this year are as true patriots as those in the ranks. We have no time for shirkers, however, and the man who is not ready to do his best on the farm is just as much a shirker as he who hides from the recruiting sergeant. Uncultivated fields should be uncommon in 1916, but some men must be left on the farm if this is to be the case. The safety of the Empire may yet depend on food as well as men. Then, all hands together for 1916!

Work Together, and Grow Clover, Corn, Cattle, and Other Stock.

As the days go by, the farm labor situation becomes more acute. We published, last week, a question asked by a Wellington County subscriber, who has a two-hundred-acre farm, can get no skilled hired help, and wants to know how he can handle the farm to make it pay. How can he?

We are not familiar with conditions as they prevail upon this particular farm, but we have visited many farms during the past few months whose owners or tenants are in practically the same predicament as is our Wellington county reader. True, not all of them have two hundred acres, but most will be called upon to work anywhere from 50 to 200 acres, with the average running 100 acres or more, practically alone. As a general thing, sudden and radical changes in farm practice do not prove over-profitable, especially where a thrifty, steady going, thinking farmer who knows his land has been doing the best he knew to make it yield fair cash returns. A farmer, who called at our office a few days ago, when asked about the labor situation in his particular locality, remarked that he and his neighbors expected to get along very much as usual, because they had been without men so long that they had adapted themselves to the situation and were prepared to do the best they possibly could alone. As a matter of fact, it was his opinion that farmers could pretty well look after themselves. Of course, there are exceptions to this rule, but during the last few years, help has been so scarce that many farmers have planned to do what they could with more horses, with more modern implements and machinery, and with working themselves, long days, and these are in the best position to face the situation this year. But the man on 200 acres obviously cannot do alone. He can scarcely properly seed the amount of land which should be in crop on a farm of that size. He cannot handle to the best advantage sufficient hoed crop, such as corn and roots, to provide a maximum yield of these crops to feed the number of stock such a farm should carry through the winter. He cannot alone harvest the crops were he able to produce them. It would seem that he must either "scratch over" some of the work in a slipshod manner, or must put forth a Herculean effort to do two men's work this year while he gets more of the farm under grass and plans to carry more stock through the summer. If he carries more stock, he must produce a larger quantity of rough feed for winter, which would mean a larger acreage of corn, planted so that it could be worked both ways with the horses to avoid hoeing.

But the crops must be handled, and we have many times this spring advised neighbors to early lay their plans to co-operate this year in the matter of harvesting hay and grain as well as corn. Silo filling has long been a successful example of the possibilities of co-operation amongst neighbors. This year in sections where large farms are the rule, about the only solution to the problem we can offer is for farmers to group themselves together and plan to handle their crops co-operatively. By working together in haying and harvest we believe that the owners and tenants could handle a far larger acreage than is often taken off even with the help of some hired men. Of course, large farms should be well equipped with implements and machinery. There will be little time this year to fool away with single-furrowed plows, narrow cultivators and drills, and pony mowers and binders. Besides, the barns and hay-lofts should all be equipped with tracks and the hay fork and slings used for unloading. Where a large acreage of hay is grown the hay-loader will likely be found profitable

Where a number of neighbors work together, two or three mowers could be used on the one farm to trim up the hay, and it could soon be run into the barn when the outfit could be moved to another farm. The many hands would make lighter work all around, and the men, all vitally interested, would not kick at working after six, if necessary. As a rule, we do not believe in or advise working too long days, but sometimes, to finish fields and to get work done which would be otherwise hampered by rain, it is necessary to put in a few extra hours, and where neighbors co-operate this could be done satisfactorily. The seeding we believe can be very well put in, even though men are scarce, provided farmers are equipped with wide implements and have everything ready the minute the season opens up. It means a little extra rush and tired legs for a while, but there seems to be nothing else to do. The only hope seems to be in a more elaborate farm equipment, making implements and machines do the work of men, a scheme which will also allow the farmer to make better use of his horses, and, coupled with this co-operation amongst neighbors or changing work, much as is done at threshing and silo filling time.

We have not solved the difficulties of any man alone on 200 acres of land. It is obvious that he could not go in to the dairy business, but we believe that by a liberal use of grass seed this spring, and by judiciously increasing the live stock, be it beef cattle, sheep, and pigs, and, by laying plans to another year, grow rough feed to feed this stock through the winter, and plenty of pasture and hay, the farm could be made pay. It is impossible to change farm plans in a few days. All conditions must be considered, but the hope of the Ontario farmer seems to lie in grass, the clovers, corn, and the necessary high-quality live stock to consume these crops on the place. Of course, some grain must be grown, and on some farms a few roots, but the basis of the farming operations should be corn, clover and cattle, or other stock.

Studies in Political Economy—VIII.

EDITOR THE FARMER'S ADVOCATE:

Last week, in considering ways and means of stimulating Canadian agriculture, the noxious effects of speculating in land were pointed out, and it was also made evident that the appropriation of the *Ground Rent* by the State would effectually kill land gambling. As we said, it is generally admitted that Canadian agriculture needs stimulation. It is not, however, generally admitted that from an economic point of view agriculture has not been getting its just due; the decline of agriculture has been attributed rather to those incidental and accidental conditions of which mention has been made already, and which I maintain do not touch the root of the matter. I propose, therefore, to submit some evidence of a statistical nature touching upon this question, which evidence explains in large measure the recent relative decline of Canadian agriculture.

The production of manufactured articles in Canada for 1910 is given as \$1,165,000,000 (census 1911). The production for 1905 is estimated as \$718,000,000 (Canada Year Book, 1914, p. 252). The increase in production in the five years was therefore \$447,000,000. Assuming the same increase in the next five years, we have a production of \$1,612,000,000 in 1915, or an average of nearly \$1,389,000,000 per year for the last five years. As these figures are only approximations, as accurate as can be gotten under the conditions, let us say that the average production of manufactured articles, per year for the last five years, has been \$1,400,000,000, an increase of one-fifth over the figures for 1910.

The capital employed in manufacturing in 1910 was \$1,247,000,000; and it is perhaps fair to assume that this has increased during the last five years in a ratio corresponding to that existing in the case of the increase in production. The average capital employed during the last five years may, therefore, be taken to be \$1,500,000,000.

The cost of labor and raw materials in 1910 was \$842,000,000. Assuming a similar increase of one-fifth the average cost of labor and raw materials per year for the last five years may be taken as a round billion dollars.

Deducting the cost of labor and raw materials from the total product, we get an average balance of \$400,000,000 per year for the last five years.

Deduct from this a further sum of five per cent. on the investment, viz., \$75,000,000, and one per cent. municipal tax, and we still have left a balance of \$310,000,000.

The question now arises as to the value of the equipment in our manufacturing enterprises. I cannot find any figures dealing with this, but I submit that, with a capitalization of \$1,500,000,000, \$1,000,000,000 is a liberal allowance for equipment. Deduct, therefore, a further five per cent. annual depreciation on equipment, viz., \$50,000,000, and we have left a surplus of \$260,000,000.

Now, let us perform similar calculations for agriculture.

In 1911 the capital employed in Canadian agricul-

ture was \$4, (1901-1911) per cent. per general rise. Making due rise in the somewhat average cap years cannot considerably.

The total fruits and dairy products 000,000. Sim increase in the very little inc stock has been value may ha annual value years 1910-191 Year Book, 19 was \$338,000, other products be over \$400,0 ever, and assu per year. On total of \$1,0 annum for the

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Deducting lab value of the ann \$240,000,000. Bu form this, viz., th cipal taxes, and a ment. Five per ce and a municipal this figure in On makes another \$ buildings and imp \$1,000,000,000. I creased value of annual depreciati makes another \$5 further deductio take from our bal of \$110,000,000.

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Manufactu

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Total Costs

Surplus Profit

Farming

Capital Investment
Value of Products
Cost of Labor (Ann
5% on Investment
1% Municipal Tax
5% Depreciation
Total Costs

Deficit

ture was \$4,231,000,000. During the preceding decade (1901-1911) the increase was 136 per cent., or 13.6 per cent. per annum. Part of this increase is due to a general rise in commodity prices and land values. Making due allowance, however, for the fact that the rise in the prices of agricultural products has been somewhat more rapid than in several other lines, the average capital employed in agriculture for the last five years cannot be less than \$5,000,000,000. It is probably considerably more, but we shall err on the safe side.

The total value of farm products in 1910 (field crop, fruits and vegetables, animals sold or slaughtered, dairy products, wool, eggs and honey) is given as \$722,000,000. Since 1910 there has been a considerable increase in the quantity and value of field crops, but very little increase in other lines. The number of live stock has been, in fact, slightly reduced, though the value may have increased somewhat. The average annual value of the field crops of Canada for the five years 1910-1914 may be taken as \$550,000,000 (Canada Year Book, 1914, p. 165). The value of other products was \$338,000,000 in 1910. The average value of these other products for the five years 1910-1914 cannot well be over \$400,000,000. Let us be on the safe side, however, and assume that the value has been \$450,000,000 per year. On this basis, therefore, we have a grand total of \$1,000,000,000 agricultural production per annum for the last five years (1910-1914).

We must now deduct from this total the various costs of production. First, labor cost: What is it? In 1910 some \$34,000,000 was paid out as wages to farm laborers. Since 1910 it is questionable if there has been much increase, if any, in the number of farm laborers. The rate of wages, however, has risen somewhat, so that it is not out of the way to assume that some \$40,000,000 has been paid out for farm labor per year for the last five years. In addition to this labor we must include the labor of the farmer himself and his family. In 1911 there were nearly four million people living on 714,000 farms in Canada. Upon every farm holding the occupier himself worked, and to some extent also his wife and children performed a share of the farm work. On some farms the women do a good deal. On some farms the farmer has a grown up son who performs the work of a hired man, but who is not so classed. He shares the income as partner or otherwise. On some farms there are three or four workers from the family. Now, what is the average number of workers per farm holding, exclusive of those classed as "hired help?" The question is a hard one to answer, and I cannot find any information along this line in the census returns. I feel safe in saying, however, that there are at least two workers per farm; or, otherwise, there are at least 600 days' work, on the average, per year, applied to each farm holding in Canada, apart from that labor for which direct and specified cash wage is paid. How shall this labor be paid? I find that the average wage paid workers in the manufacturing industries in 1910 was about \$480 for the year (Census, 1911). Considering the quantity and quality of the work done on our farms, and demanded by modern farming, it would be grossly unfair to pay those engaged in agriculture less than those engaged in manufacturing, in which a great deal of the work is largely mechanical. They are entitled to better wages. We shall, however, be on the safe side, and only allow them the same wages. Assuming then 1,500,000 workers (exclusive of "hired help") on the 714,000 farm holdings, and allowing each worker \$480 per year, the labor cost in agricultural production amounts to \$720,000,000, plus \$40,000,000, or a total of \$760,000,000 per annum.

Deducting labor cost, therefore, from the total value of the annual product, we have a balance of \$240,000,000. But we must make further deductions from this, viz., the interest on capital invested, municipal taxes, and an allowance for depreciation of equipment. Five per cent. on the investment is \$250,000,000, and a municipal tax of one per cent. (almost exactly this figure in Ontario, as I shall show subsequently) makes another \$50,000,000. The value of the farm buildings and implements in 1911 was somewhat over \$1,000,000,000. Not to speak of fences, and the increased value of equipment since 1911, five per cent. annual depreciation on this investment in equipment makes another \$50,000,000. The sum of these three further deductions is \$350,000,000, which we must take from our balance of \$240,000,000, leaving a deficit of \$110,000,000.

The situation can be expressed more concisely in the following tabular form:

Manufacturing in Canada, 1910 - 1914.

Capital Investment.....	\$1,500,000,000
Value of Products (Annual).....	1,400,000,000
Cost of Labor, etc.....	\$1,000,000,000
5 per cent. on Investment.....	75,000,000
1 per cent. Municipal Tax.....	15,000,000
5 per cent. Depreciation.....	50,000,000
Total Costs.....	1,140,000,000
Surplus Profit.....	\$ 260,000,000

Farming in Canada, 1910 - 1914.

Capital Investment.....	\$5,000,000,000
Value of Products (Annual).....	1,000,000,000
Cost of Labor (Annual).....	\$760,000,000
5% on Investment.....	250,000,000
1% Municipal Tax (An.).....	50,000,000
5% Depreciation (Annual).....	50,000,000
Total Costs.....	\$1,110,000,000
Deficit.....	\$ 110,000,000

The above comparison unquestionably throws no little light upon the cityward drift, for, with an annual discrimination of \$370,000,000 in favor of urban industries, no sane man could expect anything other than what has happened.

Next week I shall offer some explanation of this tremendous discrimination by an analysis of our present system of Federal taxation, with special reference to its incidence upon Canadian agriculture.

W. C. GOOD.

[NOTE.—Those who are disposed to go into the matter more fully can verify my figures and calculations by consulting the returns of the last Census, the Canada Year Books, and other official documents.—W. C. G.]

Nature's Diary.

A. B. KLUGH, M. A.

Two delicate little flowers which are now in bloom in our woods are the two species of Spring Beauties. The flowers of these two species are similar, both having petals which vary in color from pale pink to rose pink, with darker veins, five stamens, and a style which is three-cleft at the apex. But, as may be clearly seen from our illustrations, the leaves of the two species are quite different—in one long and very narrow, in the other shorter and broader. The Narrow-leaved Spring



Fig. 1—Narrow-leaved Spring Beauty.

Beauty is found from Nova Scotia to Alaska, and the Broad-leaved Spring Beauty from Nova Scotia to Saskatchewan. Though this is their range as a whole, there are many places within their common range where one species is common and the other absent. Thus in the vicinity of Kingston, Ont., I have seen only the Narrow-leaved species, on the Bruce Peninsula only the Broad-leaved Spring Beauty, while at Guelph both species occur.

The Fox Sparrow is now passing through Ontario on its way to its breeding-grounds in the north. This species is one of our largest and handsomest Sparrows. It is rusty-red above, the color being purest and brightest on the rump, tail and wings, and the other upper parts appearing as streaks laid on an ashy ground, below it is white, variously and thickly marked, except on the abdomen, with rusty-red, the markings along the sides and on the lower part of the breast being in the form of arrow-shaped spots, and pointed streaks. The wings have two whitish bars.

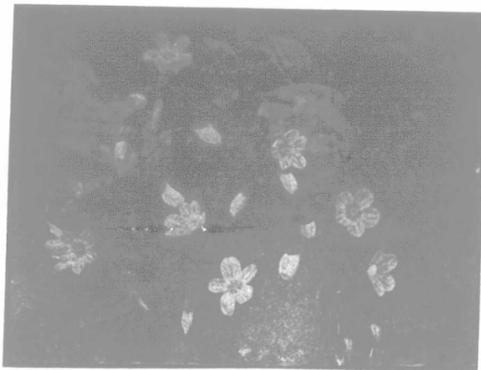


Fig. 2—Broad-leaved Spring Beauty.

The Fox Sparrow winters in the middle and southern states. It begins its migration from its winter range about March 10th, by March 20th it reaches the New England States and Chicago, by March 30th it arrives in extreme southern Ontario, by April 10th it is in central Ontario, by April 20th the species reaches Muskoka and Manitoba, by May 10th it arrives at Great Slave Lake and by May 20th those individuals which push on to Alaska have reached their breeding grounds. It is thus seen that this species takes forty days to travel from Missouri to Manitoba, a distance of one thousand miles, while in thirty days it goes from Manitoba to Alaska, a journey of two thousand five hundred miles. Much the same thing is to be noticed in the cases of all species of birds that winter in the southern states and breed in the north-west and whose migration has been studied—that they greatly increase their speed as they go northward. This is due to the fact that the rise in temperature occurs far more rapidly in the spring in

the north country than it does further south, or as we say "spring comes with a rush" in the north-land.

Sometimes during the spring migration the Fox Sparrow is heard singing its rich, clear, refrain. One spring, that of 1907, we had a heavy fall of snow while the Fox Sparrow migration was on, which held the birds back for several days. During these days, on the shore of Georgian Bay, there was a glorious Fox Sparrow chorus every morning.

Writing of this species in Alaska, Nelson says: "Along the coast of Norton Sound this bird is an abundant summer resident, sharing with the Tree Sparrow the shelter of the Alder thickets on the hill-sides and sheltered ravines. Wherever along the northern coast a fairly sized Alder patch occurs this hardy species may be looked for. On pleasant, frosty mornings at this season the males pour forth their clear, thrush-like whistle."

The Fox Sparrow breeds throughout the north country, from the Magdalen Islands, Newfoundland and Labrador, north-west to Alaska.

The Juncos are now very common at the edges of the woods and thickets, and about out-buildings. This species has the head, neck, breast and back slate-colored and the under-parts, below the breast, abruptly white, and as it flies it shows its white outer tail-feathers. It is much more common in Ontario in spring and fall than at other times, for, though some breed, even in the more southern parts of the province, the great majority of the species go to more northerly breeding grounds. The song of the Junco is a trill much like that of the Chipping Sparrow but somewhat lower pitched.

Our familiar friend the Phoebe is back in its accustomed haunts again, on the alert for the earliest insects which take wing. This species is one of the few birds which repairs and uses the same nest year after year.

THE HORSE.

Hens and horses do not go well together.

There is no excuse for using a poor stallion.

Work the brood mare, but do not overwork her.

The curry comb is absolutely essential at this season of the year.

Keep salt before the horses all the time, especially during seeding.

Feed regularly through the season of hard work and avoid digestive troubles.

He is indeed fortunate, who has saved the best of his hay and oats for the spring work.

The young colt and the brood mare will do well to have a little bran in their rations.

Keep the horses' shoulders clean. This goes a long way towards preventing shoulder trouble.

Water the work horses often, but avoid letting them drink too much after being fed, or when over heated.

Heavy horses at spring seeding would do the work easier without shoes, particularly if it happens to be a sticky seeding.

Do not expect two horses to do three horses' work but rather put four horses on the three-horse implement and drive faster.

Do not wash the legs of horses troubled with scratches. Allow them to dry after the day's work and brush clean before applying any lotion.

Have you the disinfectant, a piece of cord and a sharp knife ready for foaling time? All this was described in last week's issue.

Horses are not in keen demand, but the good heavy draft mares should be bred this year, if their owners expect to make the most out of them.

Watch the collars and the harness. Most horses shrink a little while at spring work, and some harness adjustment is necessary to prevent galls.

More is accomplished by keeping the team going steadily than by rushing for a few hours and idling in the fence corner for half an hour now and then.

Horses which have been heated up during their day's work should not be stood in a draft at night. The stable requires plenty of ventilation, but without draft.

It is always well to remember that the newly-broken colt and the in-foal mare are each only about one-half a horse. Working them half a day about is not a bad plan.

If you have a big horse on one end of the doubletree and a colt or a light horse on the other end, it is often advisable to give the little fellow a slight doubletree advantage.

Do not make the mistake of too rapidly increasing the grain ration of the horses when they go to work. Many horses suffer from indigestion by being fed large

quantities of grain during the first few days of seeding, allowing a long period of idleness and light rations. The horse should be practically on full feed when seeding begins, and so would not have the extra strain caused by increased effort on the digestive organs, accompanied with great exertion.

Lameness in Horses—XIX.

Side-Bone.

Side bones are frequently noticed in the fore feet of heavy horses. In rare cases they occur in the hind feet, but seldom, if ever, cause lameness when so situated. While the lighter breeds and classes of horses are not immune, they seldom suffer. Side bone consists of an invagination into bone of a cartilage called a lateral cartilage. The posterior aspect of the *os pedis* (the bone of the foot) presents on each side a somewhat pronounced ridge of bone. They are called the wings of the *os pedis*. Each wing is surmounted by a somewhat irregular quadrangular-shaped cartilage with a somewhat semi-lunar-shaped superior border. These are firmly attached to the wings and are called the lateral cartilages. The lower portion of these cartilages are contained within the hoof, but the upper portion projects well above the hoof, is covered only by skin, and can readily be felt and its outline followed by pressure with the thumb or finger over each heel. They are quite elastic, yield readily to pressure, and resume their original position immediately when pressure is removed. Some claim that these cartilages assist in the expansion of the foot, but it is generally conceded that they have no action in this respect. No doubt they expand and spread outwards when weight is put upon the foot, in order to accommodate the expansion of the soft tissues that are situated between them, which is caused by the weight, and so soon as the foot is lifted from the ground they regain their former position. In their expansion they are simply passive agents being pressed out as described. They may, however, be considered as active agents in the contraction of the heel, as, when pressure is removed from their inner surface, they assume their natural position in virtue of their elasticity and the pressure they exercise upon the sensitive frog forces the heel into its original shape. Briefly, they may be said to be forced to expand when the foot is on the ground, and that they actively assist contraction when the weight, which forces the frog upwards and outwards, is removed from the foot. It must not be understood that the foot expands and contracts upon its inferior surface, but at the coronet and heels; not the horny foot, but the soft parts of the heel and coronets. To prevent undue expansion of these, the lateral cartilages are placed as elastic sides. The process of ossification is often a very slow one, often unaccompanied by inflammatory action, causing the animal no pain, hence not causing lameness. But lameness may appear at any time, where well-marked exciting cause be given, as hard or fast work on hard roads. Lameness no doubt is caused by the constricted space (caused by the inflexible sides) causing undue pressure upon the soft parts in their tendency to expand each time weight is put upon the foot. At the same time many horses with side bones never show lameness, although continuously subjected to the ordinary exciting causes, but on account

of the danger of lameness, a horse with side bone should be considered unsound although he may never have shown lameness or tenderness.

The causes of the trouble may be said to be hereditary predisposition and shoeing with high calkins. It is generally admitted that the predisposition is hereditary, hence it may be considered unwise to breed an animal of either sex if he or she be affected. High heels prove a cause—first, because the shock received by the heels when the foot comes to the ground is transmitted directly to the cartilages; second, because the pressure upon the heels of the wall is unnatural and excessive, the frog is prevented from bearing its proper proportion; third, because they are pulled inwards and downwards by the sensitive frog being pressed downwards, while its horny covering being removed from the ground forms no column of support. Direct injuries are often blamed for causing side bone. This may be possible and as they usually exist in pairs, if the cartilage of one heel be normal and that of the other be ossified, and there be any symptom of previous injury, we may be justified in giving the horse the benefit of the doubt and decide that the trouble was accidental.

Opinions differ as to just when a horse should be condemned as having side bone. The process of thickening, hardening, and ossifying is gradual. Some claim that a horse should not be condemned until ossification is complete, and there may be reasonable grounds for the claim, as a horse really has not side bone until bone is really formed. At the same time we are of the opinion that a horse in which the symptoms plainly indicate that ossification has commenced should not pass as sound.

Symptoms.—In many cases the symptoms are solely local, in others there is more or less well-marked lameness, which is usually characterized by the toe of the foot being first brought to the ground; when both feet are involved, by a shortness of step and want of elasticity of action.

To detect the bony deposit, it is generally necessary to press upon the cartilages, which are naturally yielding and elastic, but when diseased they gradually lose this character, becoming hard, unyielding and enlarged. In clean-limbed horses the enlargement can usually be noticed, but in the hairy-limbed classes a manipulation is necessary to detect abnormality, and even in a clean-limbed fellow where any suspicion exists it is safer to handle. The disposition of bone may be uniform, involving the whole substance of the cartilage, or it may be in isolated spots, either at the junction of the cartilage to the bone anteriorly, or involving the posterior border first. In most cases the process is slow, the cartilages gradually becoming enlarged and hardened until ossification is completed, when they become entirely unyielding to pressure and more or less altered in outline.

Treatment.—It is doubtful if any treatment is beneficial. When the process of ossification has commenced it cannot be checked. The advisability of hastening the process by counter-irritation as blistering or firing is very doubtful. The removal of the deposits by an operation has been practiced without success. In cases where lameness is extreme, the operation of neurotomy by a veterinarian may be justified. This consists in removing the nerve supply to the part.

It is well to bear in mind that, while the condition in

many cases does not cause lameness, the horse's gait will lose that elasticity so essential to good action. In heavy horses this may not be of so much consequence, but in the lighter classes it is of great importance, not only as a question of soundness or unsoundness, but of the usefulness of the horse and safety of rider or driver.

W.H.P.

LIVE STOCK.

A Few Truths About Pigs.

The following brief references to swine management were embodied in the annual report of a co-operative bacon factory in Britain, and were published in the Live Stock Journal. Much information is summarized in a few brief sentences.

Save the best sows for breeders. Do not breed from young, immature sows. Keep a record of the performance of each sow.

Fatten the rattle-headed sow that lies on her pig. Try another.

When pigs are low in price, it is the time to increase the number of breeders.

Small pigs grow rapidly in a cold rain—that is, rapidly smaller.

Avoid scours by keeping things clean about troughs and swill tubs.

Aim for a daily gain of one-and-a-half pounds per pig. If you do not work for it, you will probably not get it.

A wet pen will make a lame hog.

A pig does not merely eat to live.

Pigs consume 2 lbs. of water with every pound of corn—if they can get the water.

It sounds contradictory, but it is good advice to fatten the hogs lean.

Quickly grown hogs are by any odds the most profitable.

Fatten is a poor word. Grow is better.

The hog is a machine for converting golden corn into golden coin.

Put the hogs on the platform scales occasionally. You will learn something.

Profit comes not in how little we can keep the pig on, but in how much we can get him to eat of a balanced ration.

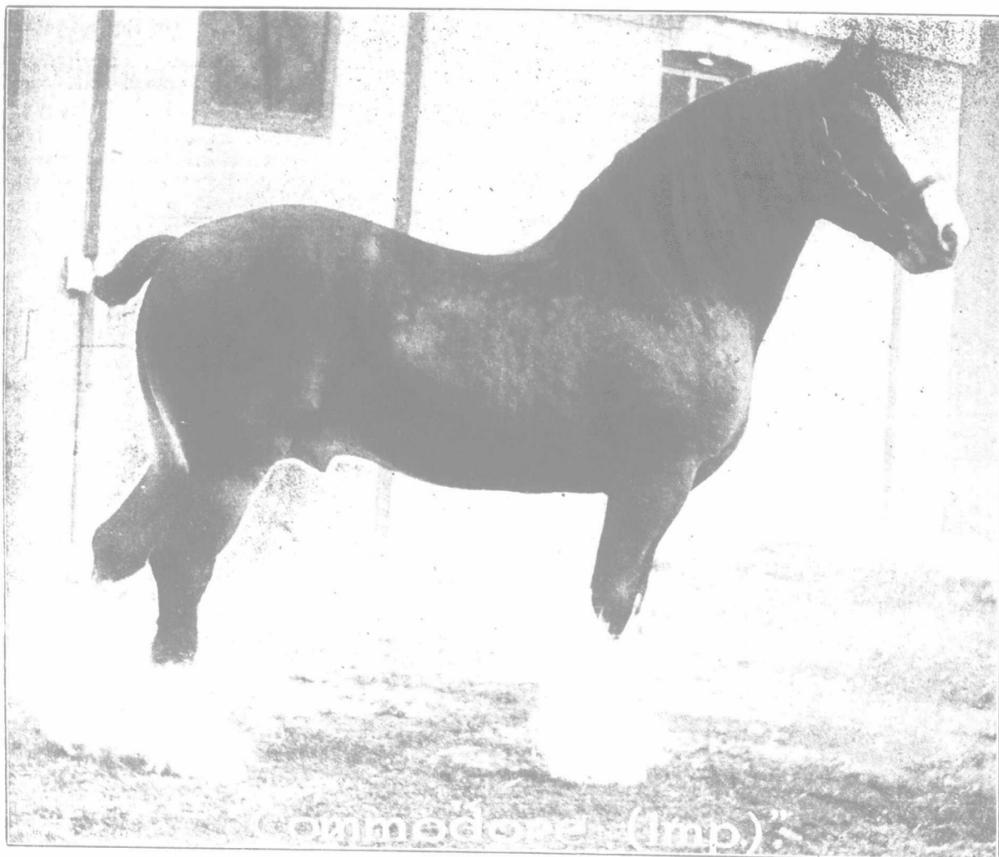
A larger increase of weight is obtained for the amount of food consumed in the early stages of fattening than in the later stages.

Feeding Market Toppers.

Maple Shade Farm, in Ontario County, has long been noted for its high class Shorthorn cattle. But pure-bred stock is not the only choice product this farm is capable of producing. On the farm, south of the main buildings, is a barn with stable accommodation for about twenty-five head of stock. This stable is usually used for winter feeding of cattle, and the past winter twenty-two grade Shorthorn steers have been fed. By the first week in April these steers were finished ready for the block. There was not a cull in the stable. The whole lot were uniform in size, similar in color and even in fleshing. Twenty-two low-set, deep, thick-bodied, evenly-fleshed steers are a pleasing sight to any lover of beef cattle.

The owner, W. A. Dryden, is a judge of beef cattle and can see in the stocker the appearance and quality of the finished animal. He knew last fall when selecting the steers, to fill his stable, from a lot of seventy-three, about what the animals would do with good feed and care. He has not been disappointed. Every animal purchased has turned out to be a good feeder. The transformation from the stocker to the finished stage has been brought about by feeding regularly plenty of the ordinary home-grown feed, together with good care and attention. During the winter the average gain was about 300 pounds, and the finished animals would weigh around 1,300 pounds each after about 150 days' stable feeding.

Successful feeding is made easy by having good stuff to work with. But choice stockers have failed to make satisfactory gains when in the care of some feeders. Not only does Mr. Dryden select good stock, but he keeps a good stockman to do the feeding, and this combination seldom fails to bring results. Silage forms the basis of the ration in this stable, and well-matured corn is preferred for ensiling. Silage and straw are mixed every day, and each animal gets about a bushel of this feed night and morning. At noon the steers are fed whole turnips and mixed hay. Salt is given twice a week. A half-bushel of turnips is fed each animal daily. Water is before the cattle, but they are turned out for exercise twice every week. When the steers are first stabled, their ration consists mainly of the succulent feeds and with only a little grain, but gradually the amount of grain is increased as the steers become accustomed to stable conditions. The limit is three-quarters of a gallon of equal parts of ground wheat and oats, fed twice daily. This ration has proved very satisfactory. The wheat that was fed had sprouted in the field, which rendered it unmarketable for milling purposes. Wheat is considered a valuable feed and gives good results, when mixed with oats, for fattening cattle. While the silage may give sufficient succulence to the ration, it is believed that the feeders make more rapid gains when turnips are fed, and it is easier to keep the stock in healthy condition. Both silage and roots are valued highly. During the time the cattle were in the stable, each consumed probably 300 bushels of



This good Clydesdale stallion, a son of Baron o' Buchlyvie (11263), will stand for service at T. J. Berry's stables, Hensall, Ont. See Gossip.

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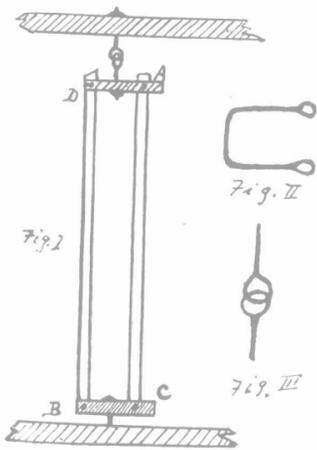
The cattle are fed daily just what they will clean up. By keeping close watch, and feeding according to the appetite of the animal, it is possible to carry a stable full of feeding steers through the winter without having one of them go off their feed.

There is always time in this stable for using the curry-comb. Not only is the appearance improved, but the stock do better when they are curried every day or two. Regularity in feeding along with good care is considered to be the keynote of the success attained in winter feeding of bullocks on this farm.

A Home-made Stanchion.

EDITOR THE FARMER'S ADVOCATE:

As the winter is drawing to a close and the time will soon be here when the young cattle and others will be turned out to pasture, some farmers, no doubt, will be planning changes in the stable equipment. As I have made stanchions for my cattle and they have proven very satisfactory, indeed, and much cheaper than the purchased ones, I thought I should pass the idea on to others. In the early spring, stables are often overhauled, and on wet days throughout the summer and early fall repair work is done in order to have them ready for the next stabling season. A drawing is necessary to help in my explanations. My ideas are depicted in the accompanying illustration. The upright parts of the stanchion are 2x2-inch maple and about 5½ feet long. The cross pieces are 2x4-inch maple and 12 inches long. By boring and chiseling, holes 2 inches square were made all the way through the top and bottom cross pieces at A and C, 2 inches from the end. In the same way, or by sawing, a two-inch square was taken out at B and D right at the end, leaving a 6-inch space between the two uprights.



A Wooden Stanchion.

The stationary upright was then put in and bolted at A and C with 4½-inch bolts. The movable upright is then put in place and bolted at B with a 4½-inch bolt, which forms the hinge, the top being left to swing open in order to admit the cow's head. It is fastened shut by an iron clamp, as shown in Fig. 2, which is made of iron three-eighth inch in diameter and 4 inches each way inside. This clamp is bolted on at D, 4 inches back from the end of the cross piece by a 5½-inch bolt. It raises up or down to open or shut the stanchion, the bolt acting as its hinge. The stanchion is then completed and ready to bolt into position. It is spiked to a timber or anything solid enough to hold it by an 8-inch spike with a good head and washer. Mine are spiked to a 4x6-inch piece of cedar, which was laid in the cement. The top is attached to a securely-fastened 2x4-inch scantling by a knuckle or swivel bolt, as shown in Fig. 3. This is made of two bolts, each 4 inches long, with a nut and washer on each free end. One bolt passes through the scantling and the other through the centre of the top piece of the stanchion. These have given better satisfaction than any method of tying I have ever tried. They keep the cattle well in their place, and, as a result, they are clean, yet the animals are given a certain amount of freedom of their heads.

Northumberland Co., Ont.

H. A. C.

If the Post Office Department is able to accumulate a surplus, the carriers on the rural routes who have been wallowing through oceans of mud would appreciate seeing some of it going into road improvement.

The civilian who passes uncomplimentary remarks about Canada's soldiers deserves punishment. So does the man in khaki who attempts, by saying nasty things, to intimidate a civilian into joining the colors.

Our Scottish Letter.

EDITOR THE FARMER'S ADVOCATE:

March is drawing near its close. It came in like a lion, and, judging by present appearances, it is to go out like a lion. This has been a memorable winter for more things than the war. The severest frosts were experienced in the early part of November and the severest snowstorms in March. The intervening three months witnessed the heaviest winter rainfalls we have had in Scotland for many years. When the hard frosts came in November, the season was only beginning. Farmers had no objection to the hard weather except those in late districts whose potato crops had not been lifted, and many tons were lost. It was too early for any injury to be done to hill stocks, and hard frosts are always beneficial to plowed land. The chief trouble then was the scarcity of labor and the difficulty of getting men to work horses for carting duty. The extremely wet weather and high winds of December, January and February played havoc with the situation. Land became soaked and almost water-logged, and as a matter of fact, when March opened, farm labor was at least six weeks behind as compared with a normal year. The consequence is that in place of there being an increased breadth of land under the plow this season, there is every prospect that the amount of food raised in that way in 1916 will be less than it was in 1915. The severe weather of March has wrought havoc on the hills. Had such weather come in January, it would have done little or no harm, but the lambing season is now very near, and indeed in some of the earlier hirsels it has begun, and at the date of writing (28th March) the outlook is ominous. Flockmasters are face to face with a situation which will tax all their resources to the utmost. Shepherds are scarce, many having responded to their country's call and joined the colors. Ewes are weak, being heavy with young. Hand feeding is necessary, and indeed indispensable on account of the heavy snowdrifts, and hay is at the ransom figure of £10 per ton. In one case it is costing a flockmaster £30 a day to bring his flock through the storm. The month opened with a perfect blizzard, and there have been blizzards somewhere throughout its whole course. In the west during the past three days we have had weather conditions worse than anyone can remember so late in the season.

These natural conditions have all been intensified by the drain made upon the agricultural resources of the country for war purposes. Both men and material have been commandeered. The men are all needed, and we are face to face with a big proposition. But there has been an enormous waste of material, and the prodigal waste in the Army has been beyond belief. The Government methods of enforcing economy have become a by-word. There has been a superabundance of official preaching, with no practice, and the reckless waste of resources goes on incessantly. Farmers have been preached at and instructed until they have become a little tired of it all. Their work is seasonal; they have no control over the weather; they are handicapped by a great labor scarcity, and altogether they are disposed to become sullen or to "kick." What they would like is a little bit more uniformity in the Government methods of securing control, and co-ordinating economy. The farmers' hay of season 1916 was commandeered for the Government at about £6 per ton. Those who are now fortunate enough to have something left over after Government requirements have been met are getting from £10 to £12 per ton for the refuse of their crop. It is the same way with horse-buying—it is, in fact, the same way with everything required by the Army. There is muddle and lack of organization, duplication of effort, and ill-regulated control. One feels a bit sick of it all, and takes pride and delight in reviewing and dwelling in thought upon the splendid silent achievements of the Navy. But enough of all this.

Some of us are trying to do our best in every line, and I may be pardoned reference which has in it an element of egotism. Alone among agricultural journals in Great Britain *The Scottish Farmer* has exerted itself to aid in Red Cross work. First of all, through its Household column, "Margaret" raised more than sufficient to provide and endow a *Scottish Farmer* bed in the Scottish Hospital at Rouen. So encouraging was the response to this modest proposal that some one suggested that the readers of "The Scottish Farmer" should present a Motor Ambulance Car for the use of the wounded at the front. The members of the Board of Directors of the company which owns the paper headed the subscription list with a donation of £10 each. The list was opened on 1st of March. Money came pouring in in all sorts of sums week by week, and now at date of writing a sum of £1,050 has been raised. Two Motor Ambulance Cars have been ordered through the Scottish Committee of the British Red Cross Society—one a G. M. C. standard car; the other a Wolseley, admittedly the best British-made car on the market; and a third car will be ordered immediately. As the Editor and chief promoter of this scheme, I naturally feel gratified at the splendid response. It shows how hearty farmers can be in a movement which commends itself to their judgment. Last year the Council and members of the Clydesdale Horse Society, of which the writer is also Secretary, subscribed £340 to the Relief of the Agricultural Allies' fund. This was the highest sum contributed by any of the Breed Societies, and observe, it was not taken out of the Society's funds, but subscribed by the members. The Council voted £250 out of the funds for a specific purpose—the purchase of Clydesdale fillies for the devastated countries when the opportune time for helping these countries has arrived. Unfortunately, the time is not yet.

March is the month of the Stallion Shows. The Glasgow Stallion Show was held on the first and second days of the month. It was probably the best spring show of Clydesdale stallions seen for about 25 years. The supreme champion of the show was the ten-year-old Bonnie Buchlyvie for which Mr. Kilpatrick, Craigie Main's, Kilmarnock, paid 5,000 guineas at the Seaham Harbor dispersion in October. He won the Brydon Challenge shield, having won the Cawdor cup, when a three-year-old, in 1909. The reserve was Wm. Dunlop's first-prize three-year-old, Dunure Kaleidoscope, a very fine, well-balanced colt, champion at the Royal Nottingham last year. Both horses are sons of the world-famed Baron of Buchlyvie 11263, about which there was a prolonged lawsuit some years ago. In the end of that lawsuit, and to wind up a legal partnership, the horse was sold by public auction for £9,500. His stock were prominent at this show. They won all the first prizes in four classes, the first-prize two-year-old being Dunure Independence, and the first-prize yearling a colt named Botha, owned by James Gray, Birkenwood, Stirling. The two horses which were selected to travel the district around Glasgow in 1917 were of the same line of descent—Dunure Footline, the older, being got by Dunure Footprint, and Dunure Purpose, the younger, being got by Dunure Stephen. In the aged class first prize went to Bonnie Buchlyvie, second to the champion of 1915, John Samson's Drumcross Radiant, by Apukwa. Mr. Pollock's Royal Fern was third, and George A. Ferguson's Phillipine, a great horse, fourth. He was bought at Seaham Harbor for 2,300 guineas. The third and fourth are both by Bonnie Buchlyvie. The fifth horse was Dunure Tower, by Baron of Buchlyvie, and the sixth was John P. Sleigh's Ivo, a son of Baron's Pride, and own brother to R. A. Fairbairn's famous champion mare, Harviestoun Baroness. The same line of breeding, that is Baron of Buchlyvie and his sons, dominated the three-year-old class. Dunure Kaleidoscope was followed by John P. Sleigh's Kismet, a very grand horse, and then came in order Escelda, Craigie Hallmark, and Dunure Footline, Dunure Recollection, and Plato. In the two-year-old class Dunure Independence, a strong, well-colored, powerful colt, was followed in order by Craigie Excelsior and Mondego, a powerful big colt, both sons of Bonnie Buchlyvie; and then came two Dunure colts—Dunure Purpose and Dunure Walker.

The Aberdeen Show followed a week later, when there was a fine display of powerful big horses. The leaders were very much of the same line of breeding. George A. Ferguson had champion honors with the big six-year-old horse, Gallant Stewart 16603—a son of Revelanta, a particularly well-balanced breeding horse. Wm. Ritchie led the junior championship with a capital two-year-old filly named Belcainr Lady Alice, by Dunure Footprint.

The series of spring bull sales was completed in March. High prices ruled for the three native Scots breeds. A two-year-old Highland bull named Baron of Camusericht at Oban made the record price of £170 to Miss Hall of Tangy, Kintyre. At Castle Douglas a Galloway yearling bull made £100, his buyer being Walter Biggar, Chapelton, Dalbeattie. The average price of 100 Galloway yearling bulls at that sale was £29 2s. 1d. Shorthorn sales at Penrith and Birmingham saw high prices also. At the former, a bull rising two years old, bred at Haugh of Ballechin in Perthshire by Mr. Rose, but owned by Mr. Robinson, a Westmoreland feeder, made 950 guineas for exportation to South America. At Lanark the annual Spring Sale of young Ayrshire bulls was held, when 183 made an average of £16 16s. 4d. and the highest price was £105.

Argentine exporters have thrown a bombshell into the camp of both Shorthorn and Aberdeen-Angus breeders by signing a manifesto that they will only buy subject to the tuberculin test, and a guarantee that the animal will stand the test before shipment. One can hardly blame the exporters. They have got their fingers badly burnt over purchasing bulls at high figures on the recorded charts of tested animals. In one case a bull was purchased at 500 guineas. His chart seemed all right. In due time he was again tested and reacted. The buyer refused to take delivery, and the bull was sold at a later sale in another market-town for 120 guineas. No guarantee or chart was published about him then. The attitude of breeders in this country to the tuberculin test has been most unfortunate. Had they at once adopted Bang's method of testing and separation, when it was publicly made known, and evidence in its favor from Denmark had been conclusively shown, the condition of the herds in this country in so far as tuberculosis is concerned, would have been very different from what it is. Herds which were in a bad state when Bang's method was adopted can now show a clean health bill, and even where the simple expedient of separating the calf from its dam at birth has been followed it is admitted that there has been a vast improvement in the health of the stock. The worst feature of the character of our home breeders is their unreasoning conservatism. They do not care what evidence may be adduced from Denmark. Their insular prejudice is proof against the conviction that any good thing can come out of Denmark or anywhere else, but Great Britain. Such wisdom is folly and such patriotism makes for national loss.

A line may be given to London Hackney show. It is a sufficiently surprising fact that in spite of Zeppelin scares and realities two weeks should have been filled up in the life of the Metropolis of the Empire with Horse-shows. During the last week in February the Shire Horse Society held its annual show, and a successful event it proved. In the first week of March, the spring shows of Thoroughbreds, Hunters, Riding Ponies, and Hackney's were held. The events were all well pat-

ronized. I only saw the last, the Hackney show, which continued two days. The results were a sweeping victory for the produce of the Scottish-owned sire Mathias 6473—owned by Robert Scott, of Thornhome, Carlisle. His son King's Proctor 11102, a former London champion was the winner of the Produce-group prize for stallions. He was himself winner of the Produce-group prizes for both mares and harness shows. Some very fine harness horses were exhibited after him, and there are a sufficient number of enthusiasts to keep the Hackney flag flying in spite of adverse conditions. Death has of late been very busy among agriculturists. John Marshall, the head of the noted implement firm of Alexander Jack & Sons, (Ltd.), Maybole, has passed away. So also has Wm. Bone,

Shellock Park, Gervain, in the same section of Ayrshire, one of the most enterprising farmers in a district where such are not few. I. Arres Mather an exceptionally capable farmer in Nairn and Inverness, died after a singularly honorable career, and finally there may be named George Hendry, Secretary to the North of Scotland College of Agriculture and formerly Agricultural reporter on the Aberdeen Free Press. Mr. Hendry was a very capable and discriminating critic of Aberdeen-Angus and Shorthorn cattle, and a recognized and trusted judge of the former. He was a favorite in the brotherhood of journalists, and will be greatly missed in the agricultural life of the north of Scotland. SCOTLAND YET.

bottom. When building a plank tank, the seams between the boards should be smeared with hot tar or lead. For only a few sheep, a trough with a dripping board at one side might answer. When this is used, the sheep are laid on the board, the wool parted, and the liquid poured on. The lambs can be dipped in the trough. On Western ranches and in countries where scab is prevalent, the equipments are extensive, and demonstrate the importance attached to dipping by those who rear sheep in large numbers. In Utah, one plant alone had a capacity of two flocks per day, or 7,200 sheep in 12 hours.

When to Dip.

Generally speaking, the flock should be dipped twice each year. Once in the spring shortly after shearing, if the weather is warm, and once in the fall before turning into winter quarters. In-lamb ewes should not be dipped in the spring, as the plunge into the vat and the handling connected therewith is liable to cause abortion. If possible, it would be better to postpone the operation till all have lambed. A few days after shearing the ticks will be found mostly on the lambs, and a thorough drenching of the little fellows also will eradicate great numbers of the pest and cause the flock to thrive exceedingly, more than would be possible when tormented by these destroyers of the shepherd's profits. Another bath about 10 days later will insure the destruction of any vermin hatched from eggs since the first dip and guarantee a season's freedom from lice and ticks.

Throughout the winter many flocks become so infested with vermin that they fail to gain in weight and thrive, and they actually go back. During some warm winter days it might be practicable to part the fleeces and pour on the warm preparation, after which the sheep can be crowded together in a warm stall until they are dry. This, however, is not the proper method to pursue. The flock should be dipped before the weather becomes too cold and when it can be done thoroughly.

How to Dip.

Any good shepherd will dip his sheep properly, provided he has the conveniences and the preparation. As previously stated in this article, proprietary or commercially prepared dip will be most satisfactory. When a dip is used which is made from coal-tar products, and this can usually be detected by the odor, it is wise to use soft water. If this is not available, a little concentrated lye may be added. However, soft water can usually be obtained from off the roofs of the buildings during a shower or it can be drawn from a near-by creek, and it will be worth while. Attention should be paid to the directions on the container re mixing and applying, and the instructions should be followed to the letter.

Dips are usually more effective when applied warm. A temperature of 106 to 110 degrees Fahrenheit is about right. Hot stones or red-hot irons can be used to re-heat the dip after it has cooled, but the initial heating is usually more conveniently executed in a feed cooker or on the kitchen range.

When dipping for ticks only, the sheep or lamb should be put below the surface at least once, so the liquid will cover every part. When dipping for scab, the animal should be kept in the bath two minutes, by the watch, and the affected parts about the head should be scrubbed with a brush. If the sheep and lambs are fastened in the pens for a short while after being dipped, the drippings will tend to disinfect the surroundings. Follow the instructions carefully and do the work thoroughly, for it will pay.

Why All Should Dip.

Any successful cattle feeder never allows his animals to remain infested with vermin. He knows he cannot get gains under such conditions. Sheep are perhaps more subject to ticks than cattle are to lice, and the bad effects are quite as noticeable. Not only do the sheep fail to thrive and the lambs to grow, when tormented by such vermin, but the quality of the wool clip is very much impaired. Sheep will rub themselves against trees, fences, or anything solid, in order to obtain partial or temporary relief, and in doing so their wool is pulled out and injured, or becomes filled with foreign matter. When the health of the animal is not at its best, the yolk excreted by the body is not as abundant as it should be, and this results in a poor quality of wool. Furthermore, the staple of the fleece is not so uniformly strong when the health and vigor of the sheep varies from time to time. After shearing in the spring, the majority of the ticks take refuge on the lambs, and this unquestionably results in poorer gains to them. Dipping will eradicate the vermin and insure greater profits in all directions. Several enquiries came to this office during the past winter from shepherds who saw the necessity of treating their flocks for ticks. If this simple operation were conducted in the fall, no such expediency would be necessary during cold

Fewer Ticks and More Sheep.

Would you kindly inform me through the columns of your paper what would be a good solution to destroy ticks on sheep and lambs and how and when should they be dipped? I thought of dipping immediately after shearing, and as I am only a beginner in the sheep business, I should appreciate some advice regarding what to use and how to use it.

Middlesex County, Ont.

SHEPHERD.

The need of this country to-day is for fewer ticks and more sheep. Mutton, lamb and wool sell readily at handsome prices, as all market quotations show, but the supply is not equal to the demand. The woolled tribe has decreased in numbers in the last decade, and shepherds who have retained their breeding animals find themselves in possession of a very remunerative class of live stock. Many of these shepherds, however, fail to put into practice methods that will still further increase their revenues and maintain the good quality of their flocks. Body pests, to which sheep are subject, still persist, and the almost universally-known sheep tick is perhaps most common of them all. Lice and scab are not unknown, but the tick itself effects sufficient loss to warrant remedial measures being taken with greater vigilance. Not only is the thrift of the flock affected unfavorably, but the clip of wool lacks in strength of fibre and in weight of fleece, when the body upon which it grows is tormented by ticks and lice. The remedy is simple and within the reach of every shepherd. The first requirement is a desire supported by a determination to treat the sheep for pests. The material and equipment are easily obtained and can be applied with little inconvenience, when once the owner of a flock, large or small, makes up his mind to practice the precautionary measures that will save him dollars and increase the quality of his sheep and their products. Dipping the sheep and lambs in a specially prepared liquid is the remedial and preventive treatment practiced in all countries. Let us study a few of the details connected therewith.

As for the dip itself, or the basis of the mixture, there are several makes now on the market. Any proprietary dip that has an established reputation for this purpose is satisfactory. Formerly, mixtures were prepared at home from lime and sulphur, and other substances, but the most successful shepherds of this decade advise against anything but the proprietary dip which can be purchased from most druggists and dealers at a reasonable price, and which is effective while not injurious. Directions for its use are printed on the container, and in such plain language that no one need go wrong.

Equipment.

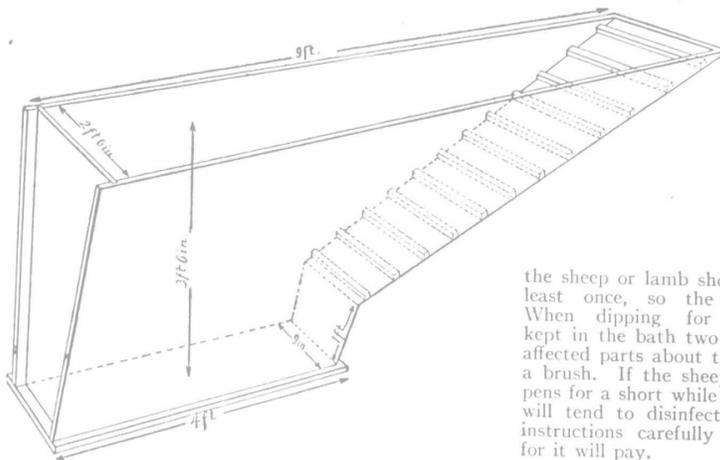
The matter of providing suitable means of dipping the sheep is not so easily settled as is that regarding the dip itself. However, a little ingenuity will quickly conquer any obstacles in this direction. A small flock of 8 or 10 sheep and their lambs could be treated quite successfully in a large tub, such as half a hogshead. These can often be procured from a grocer or any dealer selling molasses. They should be spoken for some time ahead, in order to obtain one in good time. This method is rather tedious, but the labor connected with such a flock as mentioned above would not disturb or dampen the ardor of a good shepherd. Two men are, of course, required. The sheep should be lifted and placed on her back in the dip, while her legs and head should be entirely immersed once, at least. For lice or ticks, one complete immersion is usually sufficient. For scab the sheep, all except her head, should be left immersed for at least two minutes. In order to conserve the material, so far as possible, a dripping board should be arranged at one side of the tub on which the sheep or lamb can be placed when taken from the dip. When dipping on a modest scale, it would be practicable for one operator to rub some of the liquid from the animal with his hand, and thus maintain the material as near as possible to full measure. This system of dipping is also quite applicable for lambs or for sheep that may be introduced into the flock from time to time. One of the most fertile sources of infestation and disease is through the incoming of rams or sheep purchased from ill-managed flocks. A tub or small vat can be used effectively to surmount this obstacle.

For a flock of 25 sheep or more, it will pay to purchase a dipping vat or construct one according to the plans described herein. Metal dipping tanks are now supplied to the trade, and they can be used with great efficiency. However, if the proper lumber is available, and the shepherd is handy with tools he can build a tank. It would be well in any case to get prices on the metal vats and then decide, after considering the labor in constructing one, and the probable relative values of the manufactured tank and the one built at home. In the accompanying illustration is shown a vat that

will answer the purpose very well. The dimensions, say, 9 inches wide at the bottom, 2 feet 6 inches at the top and 3 feet 6 inches deep. It is narrowed at the bottom in order that a smaller quantity of dip will suffice. At the perpendicular end of the tank a chute should be attached and kept well greased so the animal can be forced gradually down until it drops or is plunged into the liquid. It will at once climb up the gangway at the other end, where a gate could be hung, leading into a small dripping pen. This should be so attached to the vat that the drippings may run back into the



Dipping Sheep in a Tub.
From Stewart's Shepherd's Manual.



A Small Portable Dipping Vat.
From U. S. Bulletin.



A Dipping Plant.

A, collecting yard; B, dipping vat; C, place for man with fork; D, incline with cross cleats to draining pens E and F. From Sutherland's Sheep Farming.

tank. A second gate at the other end of the pen will liberate the dipped sheep and another can take its place. An even more extensive plant will permit of several sheep being retained in the same dipping pen, such as is depicted in another illustration accompanying the article, but for small farm flocks the modestly arranged equipment will be sufficient.

A suitable tank used for dipping sheep can also be used for pigs or calves. A vat in use at the Central Experimental Farm, Ottawa, for some time was 34 inches deep, 30 inches wide, 10 feet 2 inches long at the top and 6 feet 5 inches at the bottom. It was constructed of two-inch pine plank, tongued and grooved, and held together by bolts running through the centre of the plank up and down the sides and across the

weather. A monished w advantages practicing t

EDITOR "T" I have referring to w installed an

There ha productive into civiliz latter part of watery, insip selection and it is known food is reced such as to m ages, in every manual labor has a place practically ev complete wit sidered to fur close second. and beast, an in a variety town and city but growing those who are to producing tubers. Owin much easier some farms th be made to gro and prepare t have a chanc It costs no m and spray a fo one-hundred-a average yield while the pos Few crops resp and good cult order to insur able plant foo start and forc by an effort t The potato cr agriculture, an study than is by growers in ing the usual

The grower the quality an buyers and co than they were the highest pri be catered to potato, a varie Some markets tain shape and the Delaware v the Toronto v asked for. A the average size ing smooth skin with clear-color mealy when coo cooking qualities ditions under The number are altogether t growing industry trict a quantity and size, conseq is less than he formity could would do well best results in th Points that sho arriving at a dec to the soil and quality, depth o maturity, resista requirements, whic ing qualities. T almost be cons potatoes is the oblong in shape, a good yielder. The Early Euro it is a white potat deeper eyes tha also a white po round, rather bl maturing than t considered one of medium early va Carmans, Delawa among the most

weather. A good shepherd does not have to be admonished with regard to dipping; he is aware of the advantages and the now almost absolute necessity of practicing these precautionary and remedial methods.

THE FARM.

A Farm Water System.

EDITOR "THE FARMER'S ADVOCATE":

I have seen several enquiries in your paper referring to water systems on the farm. I have recently installed an air-pressure system that supplies water

to seventy-five head of cattle and horses, and the dwelling house. The engine, pump and tank are placed under the approach to the barn, which was made frost proof. I employed our local hardware men to do the plumbing and supply all pipe. I had the tank made in Chatham, Ont. It was made of rolled steel 1/4 inch thick, 60 inches in diameter, and 12 feet long, with a capacity of 1,760 gallons. The water and air are forced into the tank by a double-gear, bulldozer pump with air pump attached, back-gear 6 to 1. The pump has a 3 by 5-inch cylinder, with a tight and loose pulley 2 1/2 by 14 inches, with a capacity of 900 gallons per hour, and a working pressure of seventy-five pounds. The water is drawn through a 1 1/2-inch suction pipe from

an artesian well 92 feet from the pump with a raise of 8 feet, and is then forced into the tank direct. The air pump is 2 1/2 by 5 inches, and forces the air into the tank with water which keeps it pure and sweet.

The air pressure in the tank is raised from 15 to 30 pounds, the water occupying two-thirds of the tank. The water is forced by the air through the stables and to the house, a distance of 350 feet, and is raised 25 feet to the bath-room and hot-water tank.

The pump is driven by a 2 1/2 horse-power gasoline engine. This is more power than is needed, and I think a 1 1/2 H.-P. engine would do the work just as well. This system gives the best of satisfaction, and I think is ahead of the elevated tank.

Kent Co., Ont. JOHN BUCHANAN.

Planning, Preparing and Planting for Profitable Potato Production.

There has been a great change in the quality and productiveness of the potato since its introduction into civilization by Sir Walter Raleigh during the latter part of the sixteenth century. From a small, watery, insipid, waxy, tuber has been evolved by selection and proper cultural methods the potato as it is known to-day. The value of the potato as a food is recognized everywhere. Its composition is such as to make it a suitable food for persons of all ages, in every walk of life, whether employed at heavy manual labor or working under mental strain. It has a place on every table in some form or other practically every day of the year. A dinner is hardly complete without the potato. While wheat is considered to furnish the staff of life, the potato is a very close second. Like wheat, it is a food for both man and beast, and lends itself to being prepared for use in a variety of ways. On every farm and on many town and city lots potatoes are grown for home use, but growing them on a commercial scale is left to those who are located on soil particularly well adapted to producing a large crop of clean, smooth, mealy tubers. Owing to soil and climatic conditions, it is much easier for potatoes to be profitably grown on some farms than on others. However, an effort should be made to grow the variety most suited to the locality, and prepare the soil so that the tubers will at least have a chance to reproduce to the best advantage. It costs no more to prepare the soil, cultivate, plant and spray a four-hundred bushel crop than it does a one-hundred-and-twenty-five bushel crop, and yet the average yield in Canada is below the latter figure, while the possible is considerably over the former. Few crops respond as readily to proper soil conditions and good cultural methods as does the potato. In order to insure large yields an abundance of available plant food must be applied to give the plants a start and force growth. This should be followed up by an effort to check the ravages of plant diseases. The potato crop is an important one to Canadian agriculture, and its propagation is worthy of more study than is given to it. The heavy loss sustained by growers in 1915 should not deter them from planting the usual acreage this year.

Varieties to Grow.

The grower is obliged to pay some attention to the quality and type of potato that he grows, as buyers and consumers are becoming more critical than they were a few years ago. In order to obtain the highest price, the desires of the consumer must be catered to. If the market demands a round potato, a variety of that shape is the kind to grow. Some markets give preference, to a variety of a certain shape and color, some to another. For instance, the Delaware variety is the highest-priced potato on the Toronto market, while in London the Dooley is asked for. A tuber weighing about eight ounces is the average size. Potatoes uniform in shape, possessing smooth skin, shallow eyes, freedom from disease, with clear-colored flesh of fine texture that is dry and mealy when cooked, are the kinds sought after. The cooking qualities are influenced somewhat by the conditions under which they are grown.

The number of named varieties are legion. There are altogether too many for the good of the potato-growing industry. It is difficult to secure in one district a quantity of potatoes uniform in shape, color and size, consequently the price offered by the dealer is less than he could pay if one variety with uniformity could be secured in quantity. Growers would do well to decide on the variety that gives best results in their district, and all grow that variety. Points that should be taken into consideration when arriving at a decision as to variety are its adaptability to the soil and climatic conditions, productiveness, quality, depth of eyes, length of time required for maturity, resistance to disease, and the market requirements, which include shape, size, color and cooking qualities. There are several varieties which might almost be considered standard. Among the early potatoes is the Early Ohio, which is rose colored, oblong in shape, with moderately shallow eyes. It is a good yielder and possesses good cooking qualities. The Early Eureka is in the same class, except that it is a white potato with a smoother surface and slightly deeper eyes than the Ohio. The Irish Cobbler is also a white potato with rather deep eyes. It is round, rather blocky tuber, and is a little later in maturing than the two previously mentioned. It is considered one of the most productive of the early or medium early varieties, and is a good cooker. The Carmans, Delaware and Green Mountain varieties are among the most popular of the late potatoes. They

are white in color, somewhat round and flattened in shape, with a smooth surface and shallow eyes. They are heavy yielders and good cookers. The Rural New Yorker is also white in color, and usually grows a little larger than the other varieties mentioned, but has a tendency to be hollow. The Dooley is a favorite in Middlesex County. It is a white, fairly thick, oval potato with a medium number of shallow eyes. It has a smooth surface and is very productive. This variety grows a purple stalk bearing a purple flower. The Davies' Warrior is a white potato with a smooth surface, shallow eyes, short, oval and flattened in shape. It is one of the latest varieties grown and requires a long season to mature. In districts to which it is adapted it is productive, and a good cooker. The Empire State is an old favorite which is white in color, long and oval in shape with fairly shallow eyes. It is a good yielder and of excellent quality.

Improving the Quality and Yield of the Potato.

Naturally the soil on which potatoes are grown makes a considerable difference to the yield and quality, the lighter soil usually producing a dry, mealy potato. The average farmer has not been careful enough in the past in selecting seed, as too frequently the potatoes that were left in the bin after the table had been supplied through the winter were used to reproduce the next crop. The best way of increasing the yield and uniformity of the potato is by seed selection, and the growers who have practiced this have secured a marked increase, both in yield and uniformity of the crop. Possibly the best method is to select tubers of the desired size, true to variety and type, from hills that are the most productive. This must of necessity be done in the fall, but this spring a start can be made by planting only uniform tubers which weigh from five to eight ounces. By selecting from the bin each year the results would soon be noticed. This could be carried farther, and the most vigorous plants in the field marked during the growing season, and then these hills dug separately at harvest time and the most desirable tubers saved for seed. It has been claimed that by hill selection the yield may be doubled in three years. By this method the tubers of the main crop will gradually become more uniform in size and shape and the yield will be larger. An increase of thirty-eight bags to the acre has resulted from one year's selection. Some growers have taken the trouble to practice the tuber unit method, which is the selection of single tubers which are cut in from one to two-ounce sets, and the pieces planted consecutively in the row. The weak plants are eliminated and at digging time the product of each tuber that was planted is kept and saved for next year's planting. In this way the entire crop may soon become the product of one potato. True, this work takes considerable time but the results warrant the effort being taken.

Soils and Cultivation.

While it was previously stated that potatoes are grown on practically every farm under all kinds of soil conditions, they do best on a deep, warm loam well supplied with decayed or decaying vegetable matter. On cold, stiff, heavy clay potatoes have a tendency to be soggy and rough. The sandy soils are suitable for growing potatoes so long as the fertility lasts. Soils that give the best results cannot always be secured, but by proper working even the heaviest of soils can be put in condition so that they will produce a good crop of tubers. A large amount of moisture is required throughout the growing season to produce the maximum crop. If the supply is retarded for any length of time growth appears to be checked and the crop never fully recovers. While moisture is essential the crop will not do well on a cold soil where the water level remains near the surface. Under-drainage is necessary to carry off the surplus water.

Where potatoes are grown on a commercial scale a rotation of crops is planned, but on the average farm where only a small acreage is grown the potatoes are usually planted in part of the root field. It has been found that clover is a good crop to precede potatoes, as it greatly improves the condition of the soil and adds fertility. When a crop of clover, or even a clover stubble, is plowed under and thoroughly worked it puts the land in excellent tilth and the decaying roots furnish organic matter and tend to keep the heavy soil from becoming too compact. In some districts the potato crop follows fall wheat with good results. After the wheat is harvested the land is thoroughly

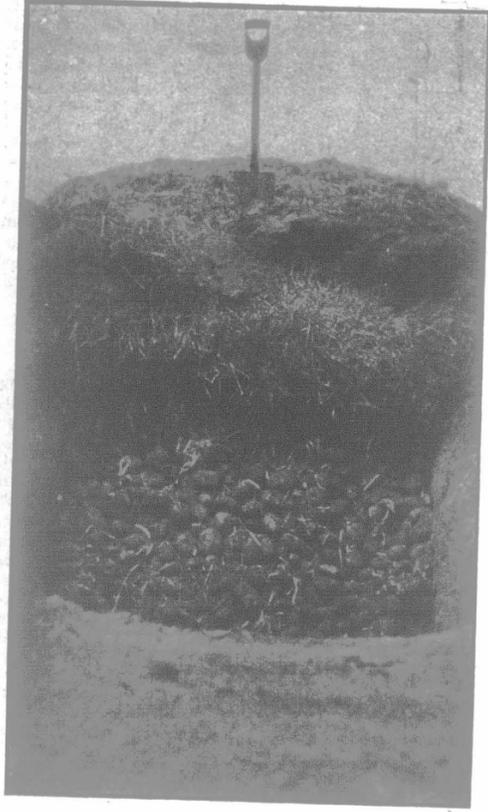
worked in order to destroy weeds which saves hoeing the following year. A grower must be careful about planting potatoes on old sod, as there is danger from injury by the white grub. Where this pest is troublesome a short rotation of crops should be followed. If possible it is a good plan to manure the potato land in the fall and plow it under, as large quantities of fresh stable manure, while supplying the plant-food constituents also produce a condition in the soil which favors the growth of potato scab. This difficulty is largely overcome by fall or early winter applications. If it is absolutely necessary to apply the manure in the spring only that which is well rotted should be used. From twelve to fifteen tons of barnyard manure would be a fair application, although some growers apply as high as twenty-five tons. While a heavy coat of good manure tends to produce a large crop of potatoes, it is not well to rob the rest of the farm. Clover and barnyard manure with good drainage will put most soils in fairly good condition for growing potatoes. Both clover and manure are important fertilizers, adding nitrogen, phosphoric acid and potash to the soil besides increasing the supply of humus which makes the soil more retentive of moisture.

The potato is a fairly heavy feeder and it is estimated that a three-hundred-bushel crop of potatoes will remove from the soil about sixty pounds of nitrogen, thirty pounds of phosphoric acid, and one hundred and five pounds of potash. It is frequently found to be profitable to add commercial fertilizer to potato land, but it is necessary that every farmer experiment for himself in order to find out the fertilizer that is needed on his farm. Potatoes draw heavily on potash, but a commercial supply of this substance is out of the question this year. Although potash may be secured from wood ashes their use for the potato crop should be avoided owing to their alkali nature which is claimed to produce a scabby tuber. Sulphate of potash, if it could be secured, is preferred to muriate, as experiments have proven that it produces a better quality of potato. Complete fertilizers containing plant food constituents in the proportions the plant is supposed to require them are on the market and in many cases have given good results. These fertilizers may be applied in the rows by the fertilizer distributor attached to the potato planter, although some growers prefer to sow the fertilizer broadcast early in the spring so as to thoroughly cultivate it into the soil.

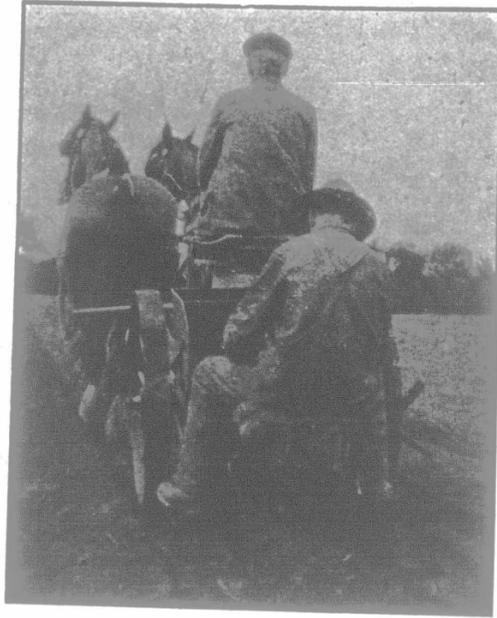
In preparing the soil previous to planting the grower must use his judgment. If his soil is very light he should avoid plowing down coarse manure in the spring as it has a tendency to keep the soil too open and porous, while for a heavy soil the coarse manure is advantageous. The land should be worked deeply as in loose soil the tubers are more likely to be smooth and even in shape than if the ground is firm and stiff. Where the soil has been plowed in the fall and manured it is necessary to plow it again in the spring and give frequent cultivation to keep the weeds in check and the ground in good tilth until the time for planting. If potatoes follow sod and the ground is not plowed until spring, as is sometimes the case, the grass may be allowed to grow up through the manure until the time of planting then the potatoes are dropped in every third furrow at the time of plowing and the ground thoroughly worked. While this method has given excellent results, on some soils it is not to be recommended, as the soil is not loosened sufficiently below the potatoes. It is preferable to plow the sod a few weeks before planting and thoroughly work it. If the land is lacking in humus the practice is frequently followed of sowing rye in the fall and allowing it to grow the following spring until potato planting time, when it is plowed down, and then worked. This treatment produces clean, smooth potatoes. No hard and fast rule can be laid down for preparing the soil. The main point to remember is that potatoes do best if the soil is thoroughly worked to a fair depth, depending on the subsoil, and put in good tilth before planting, although this is not so essential with a light soil as it is with heavy clay.

Potatoes for Seed.

Owing to the high price of potatoes this spring there will be a strong temptation for the grower to use small potatoes or cut the sets as small as possible and still have one eye. However, we believe it would pay to select good seed if possible. While the small potatoes may give a good crop this year, care would have to be taken not to plant the small ones the following year. Planting the small tubers two years in succession would have a detrimental effect on the crop, while selecting the medium-sized tuber year after year improves the crop. The seed for this spring should have been selected last fall at time of digging and stored in a cool, dark



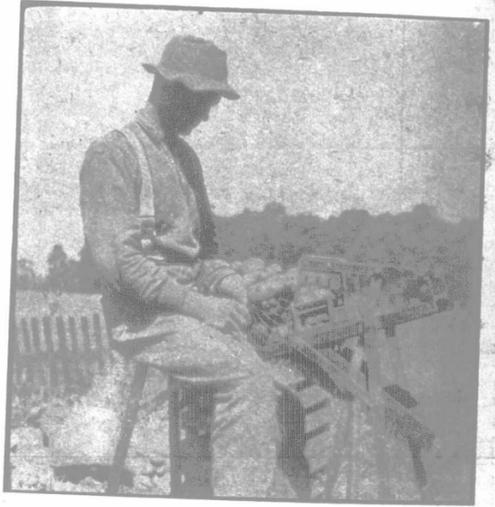
Good Seed from a Pit.



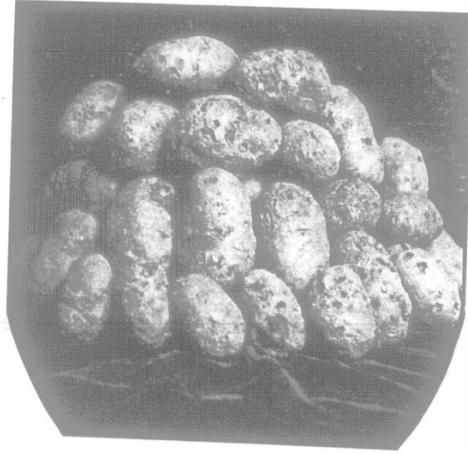
Two-man Planter.



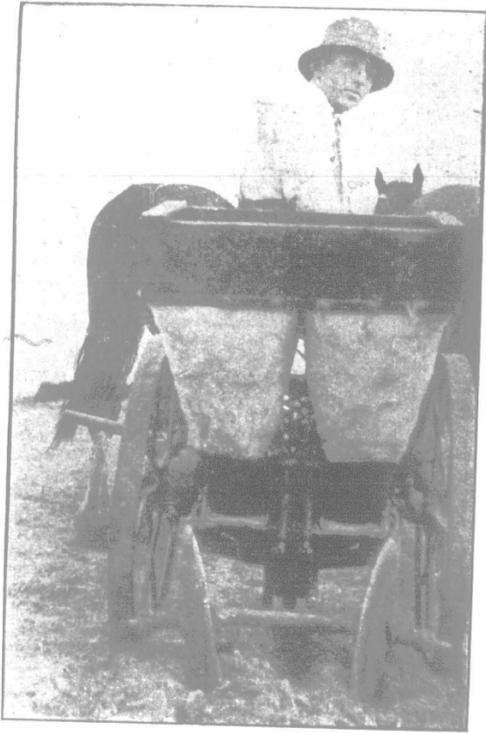
Cutting by Hand.



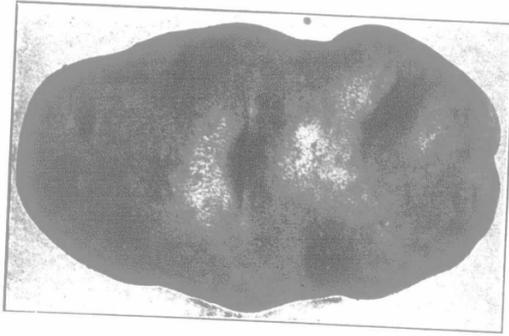
Using a Machine for Cutting Seed.



Potatoes Badly Affected with Scab. They should never be planted without being treated for disease.



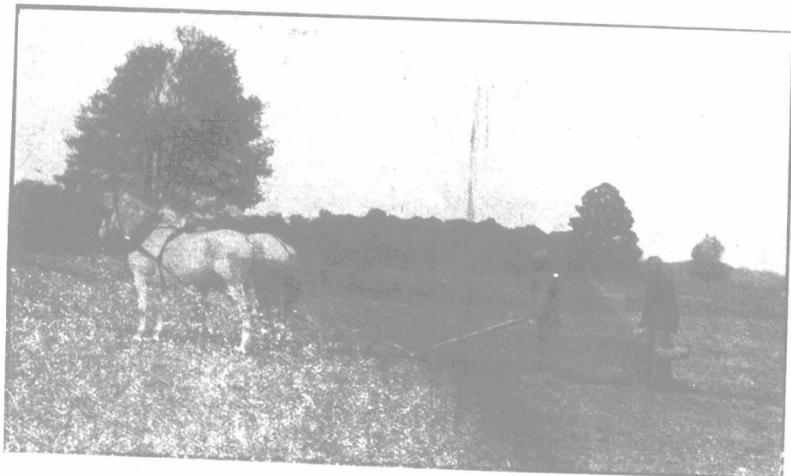
One-man Planter.



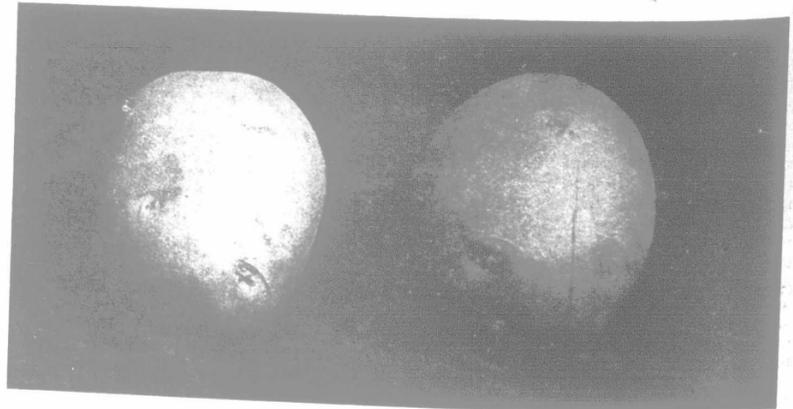
An Undesirable Type—Rough and Deep-eyed.



The Type of Tubers to Select for Seed.



Plowing the Potato Field and Dropping the Sets in Every Third Furrow.



Type of Potato which Markets Prefer. Smooth, shallow-eyed tubers weighing eight ounces each.

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place to prevent sprouting. When the potatoes sprout, as they usually do when stored in the cellar, the shoots take from the tubers both plant-food and moisture and leave the sets for planting in a weakened condition which cannot possibly give the same result as sets which have been properly stored. Even potatoes which have been stored to prevent sprouting and yet have been handled over during the winter do not give as strong plants as when they are not handled. Potatoes are frequently stored in a pit or a cool, dark cellar and left there until two or three weeks previous to planting. They are then taken to the barn and spread out where they will have free circulation of air over them without being in the direct rays of the sun. A strong, green growth starts from the eyes instead of the slender white growth produced in a warm cellar. These sprouts seldom attain growth enough to be injured in handling and the tuber has not been robbed of any plant food or moisture by excessive growth previous to planting, consequently a stronger and quicker growth is secured.

Potato Scab.

This disease is universally known and causes considerable loss in some districts every year. If scab is noticed at all on the potatoes they should be treated before cutting for planting in order to prevent the propagation of the disease. An effective method of soil treatment is rotation of crops which avoids planting a susceptible crop on the soil for a period of six or seven years. It must be remembered that the disease may be produced on beets, carrots and mangels as well as on potatoes. Alkali in the soil is favorable to the growth of the fungus, while acidity is not. Turning under a green crop and good drainage assist in decreasing the amount of scabby tubers. The use of lime, ashes or manure from stock which have been fed on potatoes affected with scab should be avoided. Treatment for potato scab consists in immersing the tubers for two hours in a solution of one pint of formalin in thirty gallons of water, after which they should be put in clean sacks or bins that have not contained scabby tubers. This treatment should be given before potatoes are cut as it is claimed that formalin applied to the cut surface will weaken the germination. Corrosive sublimate may also be used for destroying the scab. Four ounces are dissolved in four gallons of hot water and allowed to stand for a time then the solution is made up to thirty gallons. The tubers should be soaked for one and one-half hours. If corrosive sublimate is used it must be remembered that it is a rank poison and any potatoes left after treatment should be destroyed as they would be fatal to humans or stock. Thirty gallons of either solution is sufficient to treat about forty bushels of potatoes. These treatments will also control the Rhizoctonia disease which is becoming quite prevalent in some sections.

Powdery scab might be confused with the common scab, but as yet this disease is not known to any extent in this country and every effort should be made to prevent it gaining an entrance to our potato fields. Only seed that is known to be free from disease should be planted and if there is even a slight suspicion the seed should be treated as for the common scab. There are other diseases which winter over in the potato and may be seen at time of cutting the seed. Potatoes with dark rings or discoloration should not be planted as some fungous disease may be wintering over in the tuber that would infect the field if planted in the spring. Potato growers cannot be too careful regarding the seed they plant.

Cutting Seed for Planting.

Some growers take particular pains in cutting the potatoes for seed. The work must be done just so, and is never entrusted to the boys or hired man. The seed end was considered useless for seed, consequently it was thrown away and the remainder of the potato cut at a certain angle in order to ensure growth. This custom is fast disappearing. Where a large acreage is planted a machine is used which is regulated to cut the sets a certain way, regardless of size, shape, or number of eyes of the potato. For most satisfactory work with the machine, the tubers should be uniform in size and shape. It is a time saver, as one man with a machine can cut six or seven bushels of seed per hour which is sufficient to keep a planter going steadily. The stand of crop from sets cut with the machine is about equal to that secured from seed carefully cut by hand.

While the size of sets for planting varies from a thin portion, not much more than a peeling, with one eye on it, to whole potatoes, the aim should be to leave the set as thick as possible opposite the eye. At least one eye must be left to a set but it is safer to leave two. Sufficient plant food must be stored in the set to give the young plant a start. Too many eyes to a set has a tendency to increase the number of tubers that form, and unless the soil is very fertile, and weather conditions favorable, the crop may consist of many small potatoes. There appears to be little advantage in planting whole potatoes and the cost of seed is considerably increased. The amount required to plant an acre varies from ten to as high as twenty-six bushels, depending on the size of sets and distance of planting. Having the rows three feet apart and the sets fourteen inches in the row, thirteen bushels of one-ounce sets would be needed. If the sets weigh one-and-a-half ounces, from eighteen to nineteen bushels would be required. Fourteen bushels is about the average amount planted.

Freshly-cut tubers should be kept out of the hot sun as much as possible and when planted should be covered quickly, in order to prevent moisture evaporating from

the tuber, if the strongest plant is to be obtained. If conditions are favorable a callous soon forms over the cut surface which prevents loss of moisture. Freshly-cut seed will soon heat if left in a bag or pile. If planting cannot be done the same day as the cutting, the seed should be spread out thinly in a cool place and out of the direct rays of the sun. If the seed heats there is danger of weakening the germination. It is a good plan to plant the seed as soon after cutting as possible. Some growers sprinkle land plaster on the freshly-cut seed as they claim it aids in keeping the seed in good condition and increases the yield.

The time of planting for the late crop depends on the condition of the soil and the locality. Potatoes are better not planted until danger of late frosts is past. The young vines are tender and freeze easily. If there should be danger from frost, after growth has started, the plow can be used to cover the plants with earth to protect them. The ground should be warm before the potatoes are planted so as to start growth quickly. If the sets remain in the ground too long before sprouting, there is danger of them rotting or else sending up only a spindly stem. The proper time for planting will have to be decided by the individual on his own farm. From May 20 to 24 is potato planting time in many districts. Late plantings escape the severe attacks of the bug, but this shortens the growing season, as early fall frosts frequently cut the season short at that end. For late varieties the longer the growing season the larger the crop.

Potato Planting.

The distance apart to have the rows, or thickness to plant in the rows is difficult to state, as there are several influencing factors. Potatoes may be planted closer on a rich soil than on a poor soil. If the rows are about thirty-three inches apart, either a one or two-horse cultivator may be used well on in the season, and there will be plenty of room for spraying. Most varieties will completely cover the ground at that distance. In the rows, the sets are dropped all the way from eight to twenty inches apart, but with most varieties on the average soil about fourteen inches is considered the most economic distance.

The proper depth to plant will be regulated somewhat by soil conditions. The surface soil is warmer than that lower down, consequently shallow planting gives more rapid growth than deep planting. For the early crop, two or three inches would be deep enough but the average depth for the late crop on a loam soil is about four inches; on heavy clay it might be advisable to plant a little shallower. Surface cultivation may then be given until growth commences. At three or four inches deep, well-prepared soil is usually moist which aids in forcing a continuous growth. On a soil that dries out rapidly potatoes should be planted deeper than that mentioned.

The usual custom is to plant in drills, although growers frequently plant in hills about thirty inches apart each way. This method permits of more thorough cultivation with implements, thus lessening the work with the hoe. Where only a small acreage is planted, the potatoes are usually either plowed in or planted in drills made by the ordinary plow, or double-mold-board plow. On a heavy clay soil the drill method is preferred, but on a good loam or sandy soil the potatoes may be dropped in every third furrow when plowing at planting time, after which the soil is given surface cultivation and a good crop usually results. If potatoes are plowed in, it is a good plan to attach a jointer or skimmer to the handle of the plow, just behind the shoe in such a way that a little soil from the land side is scraped into the bottom of the furrow, which gives loose soil for the sets to rest on.

The use of the planter is gaining in favor, as it does the work in a satisfactory manner and is a labor-and-time saver. There are two types of machines. One is known as the picker type, the other as a two-man type. With the former the sets are picked from the seed box by steel points attached to a revolving wheel and are dropped in the furrow made by a shoe attached to the machine, and then covered by two disks. If the sets are uniform in size and blocky in shape, there will be very few blank places in the field. The other type of machine is fitted with cups which carry the sets down and drop them in the furrow, where they are covered by disks. In order to operate it successfully one man is required to drive and another to see that there is a set in every cup. Some growers prefer one type, some the other. It is claimed that it costs about two dollars less to plant an acre with a machine than it does by hand.

After planting, the harrow or disk may be used to prevent weeds or grass from getting a start and at the same time a dust-mulch is formed which aids in preventing loss of moisture. As soon as the growth is sufficiently high to follow the rows, the horse cultivator or scuffer may be used. It is a good plan to cultivate deeply and close to the row the first time, as it is the last opportunity of a deep loosening of the soil. Subsequent cultivations should be shallow to avoid root injury. It pays to give the crop frequent cultivation during the growing season.

A few potatoes of an early variety should be planted on every farm besides the regular acreage of the main crop. An endeavor should be made to prepare the soil and select the seed so that the crop will have every opportunity to produce a large yield of good quality potatoes, even if it is only for home use. Seed selection and careful soil preparation are the first steps toward insuring a profitable crop. There are enemies of this important crop which must be guarded against. If some of the known potato diseases of other countries secure a footing in Canada it may result in serious loss. If every potato grower would carefully select the seed

used for planting, pay special attention to soil preparation, and guard against the crop becoming infected with disease, the average yield and quality of potatoes for this country would soon be largely increased.

THE DAIRY.

Eastern Dairy School Exam. Results

The following is a list of students ranked in order of merit who successfully passed their examinations at the Eastern Dairy School and will be granted diplomas after proving their ability by operating a creamery or cheese factory satisfactorily this season:

HONORS—Fred Hudson, Kingston; Wm. Wright, South Mountain; Fred Murray, Kemptville; D. McDougall, South Indian; J. W. Bolton, Ormond.

SECOND CLASS—A. W. Morrison, Rockspring; J. W. Tordiff, Brooklin; J. B. Mercier, Jasper; E. G. Wilson, Wilson; James King, Almonte; C. Ogle, Kingston; W. C. McEwen, West Brook; F. W. Standish, Clarence.

PASS LIST—F. Pattemore, Frankville; A. J. Sullivan, Plantagenet; W. R. Tordiff, Brooklin; H. Stinson, Burridge; C. H. Lee, Lindsay; W. G. Davidson, Glasgow Station.

Give Her a Second Chance.

It is not always well to condemn a cow on one year's performance. A few years ago Prof. G. E. Day, of the O. A. C., Guelph, imported a number of milking Shorthorns from England. Among them was a white cow, Golden Rose. She looked like a producer, was built on the proper lines of a dual-purpose cow, and was admired by followers of the breed who saw her; but during her first year in Canada she produced only a little better than 6,000 lbs. of milk, which was not up to expectations. But 6,000 lbs. is a fair quantity for a cow of the real dual-purpose type and carrying considerable flesh. However, she was kept in the herd, judiciously fed and cared for, and she has recently completed a test which has broken the Canadian record for a Shorthorn cow by giving 12,410 lbs. of milk in 365 days, testing an average of nearly 4.6 per cent. fat, yielding over 565 lbs. of butter fat. Before discarding any of the cows from the herd, it is well to be sure that they have done their best under favorable conditions. Occasionally a cow aborts, and rarely, following an abortion, will she do herself justice in milk production. Selling the cows from the herd is not the way to get rid of the disease, nor is it fair to the cows from the standpoint of milk production unless they fall down very badly. Seasons of poor pasture and short feed sometimes work against production, but these should be brought down to the minimum by the use of soiling crops, annual pasture, and summer silage. If the cow looks right and is fed right, she should produce; but it is sometimes better to give the fair cow a second chance to prove her worth.

POULTRY.

The Table - Egg Duck.

EDITOR "THE FARMER'S ADVOCATE":

We all know the story about the hen that believed in advertising. She could never lay enough eggs to supply the demand, while the more modest duck laid her eggs at night and in strange places. She uttered no proud quack to mark the spot, and therefore, saw her wares but seldom upon the shelves of commerce. While many a flower is born to blush unseen, it was inevitable that the Indian Runner would find champions to sing its praises. This slim, graceful, little fowl possesses a wealth of merits, the least of which is its modesty, and it is time that it should be given a rightful place in the honored list of producers.

Comparisons are not usually in good taste, but in no other way does the Indian Runner show to such splendid advantage as when compared point by point with the hen. You can do this mentally as you read. To start at the very beginning, she can spare no time to sit, so she goes ahead and lays, paying the hen's board while she raises her young. After the usual ninety per cent. hatch comes off, the ducklings waste very few hours in their race for full-fledged duckhood. They are willing to get up several times in the night to eat, so that in ten weeks they are full grown, having had no set backs due to lice which have no terrors for them. The drakes are now ready for market, and average about four or five pounds—flesh very tender and sweet, a feast for an epicure. From now on, if given the same care as chickens, the ducks will lay at five months of age, and keep it up until the flock has produced over 150 eggs for each duck. They will thrive and remain in the best of health if given only shelter from drafts, a trough of sand and water, and a handful of mixed grains night and morning. This will see them through the most severe winter. In February feed a mash once a day of bran, shorts, cornmeal, some chopped green stuff and meat scraps in the proportion of 3, 2, 2, 1, 1, and you will very soon be rewarded by a quantity of pure white eggs, larger than the biggest hen egg. Fry them, poach them, try them your favorite way, and you will have a delightful surprise awaiting you—not a trace of "duckish" flavor, but mild and amply satisfying. Containing less water than does a hen's egg and a much richer albumen and yolk, you will find that you need

only two eggs instead of three when making cakes, and the cake will be considerably improved. The best proof I can offer of this is that in New York, Indian Runner eggs regularly command ten cents a dozen over the market price of hen eggs.

They are easy to raise, easier still to care for, being subject to practically none of the poultry ills. With a two-foot fence to hold them, a pail of fresh water and feed twice a day, there is no reason why anyone who loves feathered company should be without them.

Leeds Co., Ont.

W. A. STAEPER.

The Medium-Sized Hen Produces the Eggs.

From observation, Prof. W. R. Graham, is led to state that as a general thing the heavy-laying hen is not the biggest hen of her breed, but more of a general-purpose chicken, not too large nor yet too small, but having heavy-laying propensities well developed. There is a reason for this. The bird that lays the most eggs usually matures early, commences laying early, and consequently does not reach as great size as the slow-maturing, heavy bird does. It is a fact that bred-to-lay Barred Rocks are not, as a rule, as heavy as Exhibition strains. The same seems to hold true of Wyandottes and even of Leghorns. We sometimes wonder whether or not it is profitable to raise too large a bird. As a general thing we believe the bird which matures early will make his owner more money and will suit the market better. The bird which matures at an early age will be just as heavy at a certain age as will his slower maturing brother of the same breed, provided that age is that at which most of the birds are killed and sent to the market. The slow-maturing bird, killed young, is never plump, while the more rapid-maturing cockerel rounds out at an earlier age and fills the bill just as well or better. Why not, then, encourage the medium-sized type of hen if she will lay more eggs, and if cockerels from her sell as well on the market and mature earlier, thus making gains more economical for the feeder?

HORTICULTURE.

Producing Cucumber Plants and Making Them Bear.

EDITOR "THE FARMER'S ADVOCATE":

Among the early vegetables that command a good price and that are in strong demand, yet not difficult to grow, is the cucumber. The one important point in growing cucs. is to keep them growing, consequently it is advisable not to plant them too early.

We plant about the 20th or 25th of April. Cucs will take almost unlimited quantities of manure in the field, but it must be given in limited supply in the hot-bed or greenhouse in its earlier stages. Here we are using more small greenhouses with cold frames than hot-beds, but the same results can be had with either. We mix about one-third well-rotted manure and two-thirds light soil, sifting both before planting the seed.

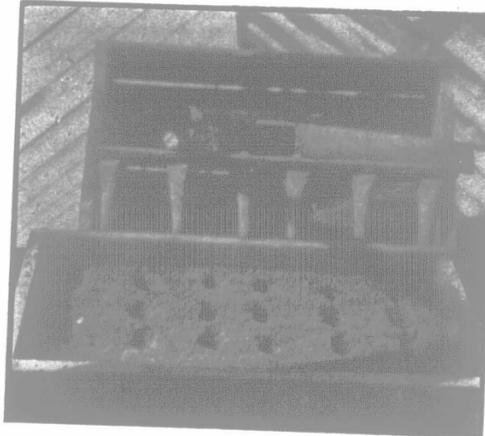
Much loss in cucs is made certain if a poor variety of seed is used. That does not mean seed of poor germinability or small production, but it means seed of varieties that are not the right color, with perhaps another qualification of being a good shape. By all means get a White Spine. These cucs will remain white, not yellow, in the spines or strips, and even when they are ripe they will not turn yellow. There is a strong prejudice among housekeepers against yellowish cucs, because they think they are likely to be bitter, and perhaps there is something in it. For this season's work we have purchased a field variety of White Spine, and another variety known as Perfection Forcing. Almost all the seed houses now carry the White Spine, and it is merely a choice between the strains, and we can only find that out by experimenting. We are experimenting still on the field variety.

We plant the seed in trays or flats 12 by 24 by 4 inches, filling them a little over half full of the sifted soil and manure in the quantities mentioned above. Get the soil level before seeding, otherwise there will be little pockets formed in which water will lie after sprinkling. We plant the seed in drills made with a stick, a lath, pressed edge down, will give about the right size of a trench. Seed in the hot-bed or greenhouse should be buried as deep as it is thick, that is, have as much soil over it as the thickness of the seed. When the seed is in the drills, or trench, cover it with sand, pure sand is what we use. After pressing the surface with a block, sprinkle with warm water and cover with a piece of old grain sack. Be sure to press the soil firm, for no seed can get a root firmly enough attached to the soil if it is not in firm ground. If the soil has a good proportion of sand in it so much the better, for the sandier the soil the larger will be the root system developed. Yesterday I was transplanting some peppers and to day some cauliflower. The peppers were in ordinary soil, and the cauliflower had a big proportion of sand. The peppers had a long tap root and very little side shoots. The cauliflower are the bunchiest little plants I ever grew, and their roots were all over hunting for the nourishment. Many of the peppers wilted, while the cauliflower are as stiff and straight as they were before moving. Then there is this advantage in sandy soil, one can water the seedlings almost every day without running the risk of having them "damp off."

Just as the tip of the true leaf appears between the seed leaves is the time to transplant. Wet them well the night before and transplant in the morning, setting the plants about two inches apart. If you can use trays so much the better. Use sifted soil and manure to the proportion of about three of soil to one of sand and two of manure. Get the soil level in the trays or bed, then make little holes about one-inch-and-a-half deep to receive the seedlings, dig the seedlings out with an old table fork and set them in the holes pressing the soil firmly around the roots. Set them so the seed leaves will be resting on the surface, to have the stalks up in the air weakens the plant. If the sun is out bright we cover the plants with newspapers to be sure they will not wither. If they have had enough water and are not very warm, say not above 65 degrees, for the first 24 hours they will not wilt. A cuc must be kept growing from the time the seed is in, for the moment it stops growing it becomes a runt. It is better to put the seeds in a little later than to have to check them or hold them back. We find every check makes them that much weaker.

When the leaves begin to touch we transplant again. This time if we have them we use flower pots or paper pots, but if not we use the trays. This time we give them considerably more space in the trays, for we find that it does not pay to transplant more than we have done up to this stage. For this transplanting we are not so particular to sift the soil, but we watch for anything coarse in the soil, like old pieces of corn stalks that may have come in through the manure.

After the first transplanting and a few days, generally two, after watering we take a table fork and stir the surface of the trays not too deeply. This we find



A Tray Ready for "Cucs."
Note the hole maker at the top.

is better than watering often, the leaves keep a deeper green and grow much healthier. Two waterings and one careful stirring will not take as long as four waterings, and is much better even though we know that cucs are water hogs.

About six or seven days before we intend to set them in the field we pinch off the end of the vine. This induces the vine to throw out branches, and to give it that tendency is a good thing. If the plants are in trays we take a table knife and cut the plants into blocks, which is an easy matter if they are kept in lines in the trays as they ought to be in order to give them all a fair chance and to make it easier to work the soil. Each plant has then a block of soil about it and will not need to be disturbed very much when planting in the field. Those in the pots will, if turned upside down, drop right out, and are better for not having the knife passed around them.

Anything in greenhouse or hot-bed work that will tend toward evenness in development of the plants should be made use of. We keep the soil in the trays the same depth by levelling off with a strip of wood the ends of which rest on the side of the trays and allow the centre to drop down only so far into the tray. With all the soil in all the trays the same depth evaporation takes place about the same in each tray, and they will require about the same amount of water on the same day. That is why we prefer to plant seeds in trenches, the seeds have each the same chance to sprout, and the seedlings have a chance to develop evenly, so that when the largest are ready for transplanting the smallest will not be so very much smaller.

In the field when we are short of manure we plow a furrow where we wish a row of plants to go, then turn around and go back up the same furrow, throwing the soil out on both sides. The rows are five feet apart, and the plants four feet apart in the row. After the furrows are open we take a load of rotted manure and put a forkful between each plant, or rather leave spaces for the plants to go in. It does not pay to plant anything on top of manure, even though the manure is well rotted. We find that the plants dry out in the sun, and the hoeing they get will only aggravate that condition. It would be far better to plow a furrow and fill it with manure, and then put the plants in another furrow plowed alongside of that. We pick off the first few cucs that show on the vines, and ship as picklers, as the first ones are liable to check growth. The mature cucs are better picked early in the morning and plunged into a tub of cold

water before packing. The cucs are ready when the blossom end is nice and firm. Our packing case holds two tiers of 12 or 15, making 2 or 2½ dozen per case. The number of dozen is then stamped on the end of the case.

British Columbia.

WALTER M. WRIGHT.

The Relation of Precooling to Marketing.

In the year 1911 there were 1,322,709 people living in the three Prairie Provinces. What the increase may be, as shown by the next Census in 1921, it would be idle prophecy to say, but the fact remains that there exists, and will exist, in that broad expanse of country a large market for tender fruits. The question is who will supply it, Ontario or the United States? Ontario needs it badly enough, and should make some effort to win it for herself. This can only be accomplished through reliable packs, concerted salesmanship, and precooling. Distance is an obstacle which Ontario growers must overcome. Precooling will aid. Then again the price problem arises. When a large bulk of the production is diverted from the Eastern to the Western Provinces the price will be better in the East, perhaps, or the returns will be more satisfactory than those accruing from shipments to the West. To effect the distribution so all growers will profit according to the quality of their products, rather than according to the destination of their fruit, some extensive organization is necessary in every district where tender fruits are grown on a large scale so the returns can be meted out on a pro-rata system. The equity of this method is apparent.

Precooling systematically executed by a large organization in the tender fruit districts would extend the market wonderfully. Considerable can be accomplished by the extensive independent growers and the small co-operative associations, yet they should get together on this matter in years of heavy production and agree to precool and ship a certain percentage of their tonnage West. That would alleviate the stress east of the Great Lakes and make things more satisfactory generally.

The time has not yet come when the growers are required to consider precooling in connection with strawberries, but with cherries, plums and peaches it is a different matter. Edwin Smith, manager of the precooling plant at Grimsby, reported at the last annual meeting of the Ontario Fruit Growers' Association that the precooling of cherries has been a success, and that Early Richmonds will stand a shipping test of ten days nearly as well as the Montmorency. There is no doubt regarding plums. They readily respond to the treatment and carry well. So far as the precooling and shipping of peaches are concerned it has been demonstrated that the practice is feasible and can be successfully carried on. The difficulty lies in that the California, Washington and British Columbia peaches are first on the Prairie markets, and have acquired a reputation. The shippers of the Niagara District have verified Mr. Smith's reports with regard to the success of precooling. What is required now is a get-together movement and an extension of the facilities for marketing Ontario's crop of tender fruits to the best advantage.

THE APIARY.

Re-Queening.

EDITOR OF "FARMER'S ADVOCATE":

When a beekeeper has thirty or more colonies of bees, and intends to re-queen all his colonies, it will pay him, I think to raise his own queens. Of course, it necessitates a considerable outlay the first season for equipment, but with a little care in handling and caring for it, the same outfit will last for several years.

The first move to be made by the beekeeper, who intends queen-rearing on a small scale, is to prepare his outfit. I will try and give a few hints, in the preparing of an outfit, that will perhaps benefit some beekeeper. The apiarist should buy or make his mating-boxes, etc., in the winter or early spring before the busy season opens. If he prefers, he can make at home the queen mating nucleus boxes if he uses care and has the proper measurements, but for the inexperienced, I advise buying the outfit from some reliable firm.

A small outfit will consist of about two or three frames for holding queen cages. These are sometimes called queen nurseries and hold about thirty-four queen cages.

A number of queen cages must be at hand, the use of which will be seen later. Besides these articles, a number, the quantity to be decided by the number of queens to be raised, of queen mating nucleus boxes must be provided. These are used in the mating yard when the virgins are being mated to pure drones.

The colony or colonies to be used for the rearing of queens must be strong. As soon as the spring opens up start them breeding by feeding them. When the brood-chamber is full of bees and brood put an extra set of combs above. If they do not appear to be as strong as desired give them frames of hatching brood. About nine days before it is time to begin queen rearing, put a queen-excluder between the two bodies. Nine days after place the brood chamber containing the queen, on a new stand, leaving the bodies without brood or eggs on the old stand with all the field workers. Into this hive put a frame of eggs from the hive con-

taining the b... a number of the top bar of the frame of... now contain cell walls in... With a tool worker cells supplied royal then place thi of the one re stock. Ten d now sealed, i placed in the... The queens in or three days virgin queens a nucleus box, w 4½ sections. is removable. in this nucleus brood, from a f... When the nuc of bees is tak cells and put i go in by the e number of the taken to the y the entrances enough from th returning to it. distance off the examination sh

Much of ag... Session of the... cluded. As sho... regular appropri... made without... however, include... One was a specia... Fair to assist ir... show at which t... to war condition... \$1,000 to assist ir... shipments to the... stock men, these... financed through... same time have... the Director of t... ment. Owing to... these Association... proportion of the... they felt that the... for this purpose a... Government durin... to assist in retain... trade. It is hope... only maintained... In addition to... ment, the Depart... \$300,000 from th... struction.

Change

As a result of... changes have bee... culture from th... Colonization Bran... Department of Agr... Forests and Mine... to the Department... was transferred a... ferred back again... which the Depart... working out in or... ment. Needless to... will continue to w... in the matter of w... for many years have... Agriculture have... the Factory Inspe... Engineers' Branch... ing a Trades and I... Public Works and... including the bran... ministration entai... stituted a very large... their removal leave... culture one of the fi... cultural department

The most impor... course, that which... at cheese and butte... reviewed in these c... legislation provides... basis of butter fat... cheese factories. Cr... on the basis of its... quality has yet be... reference to cheese... April 1st, 1917, and... brought into effect... Governor-in-Council... the bill is of an educ... with a marked degre... cultural Committee... legislation and was p... bers. G. C. Publ

taining the breeding queen. In the meantime, prepare a number of artificial queen cells and fasten them on the top bar of a brood frame. Two days after putting the frame of eggs into the hive, take the frame which now contains larvae, into a warm room. Cut down the cell walls in this frame to aid in transplanting the eggs. With a toothpick gently take the larvae from the worker cells and put them on top of the previously supplied royal jelly in the artificial queen cells and then place this frame in the queenless hive in the place of the one removed, which is returned to the breeding stock. Ten days later place the queen cells, which are now sealed, into the queen cages which are in turn placed in the special frame and put back into the hive. The queens in these cages should hatch in about two or three days when they will be ready to mate. The virgin queens are mated, as stated before, by means of the nucleus box, which is large enough to hold three $4\frac{1}{4}$ by $4\frac{1}{4}$ sections. The box is opened at the front end which is removable. Two sections of comb honey are placed in this nucleus, and the other section contains worker brood, from a frame cut into squares to fit these sections. When the nucleus box is all ready, about a cupful of bees is taken from the hive that raised the queen cells and put into the box. A virgin is then allowed to go in by the entrance, which is then closed. When a number of these small nuclei are prepared, they are taken to the yard where the queen is to be mated and the entrances opened. The nucleus should be far enough from the parent hive to prevent the bees from returning to it. The boxes should also be set up some distance off the ground to keep the ants out. A final examination should be made about twelve or fifteen

days later. The mating boxes containing laying queens are ready to introduce into a full colony. The above method has been tried and used successfully by several beekeepers, for the rearing of a few queens for home use. About thirty queens can be reared from one hive and still leave sufficient bees to build up the parent colony for winter. The main point is to have your colony or colonies strong in the spring and if care and thoughtfulness is used in the process, success awaits you. In a later article we will describe some of the methods of introducing queens to full colonies. Middlesex Co., Ont.,
BEEKEEPER.

FARM BULLETIN.

The Red Cow's Calves.

BY PETER MCARTHUR.

Talk about excitement! When I came home from the excitements of the city to enjoy the quiet life on the farm I ran into more excitement than I had met with on my travels. Although it was after dark when I got home nothing would do but that I should go out to the stable to see the new calf. Although I wanted to have my supper first I was over-ruled and I followed the lantern, with the whole family at my side. I might have suspected that there was something unusual about Fenceviewer's new calf, but I put down the enthusiasm of the children to the fact that it was a brand new calf. The little comedy was

properly staged. I was not allowed to see anything until I had reached the calf pen. The lantern was then swung in front and everyone yelled at once. I got the situation at a glance, and I guess I yelled too. The red cow had given birth to twins! There they were, as nice a pair of red calves as anyone would wish to see. I couldn't blame the little folks for being excited. According to those who know, this is the first pair of twin calves that ever was born on the farm. But what interests me is this further development of the red cow strain. You may remember that when summing up their good qualities I recorded the fact that Fenceviewer and her progeny give me aid in farm work by testing the fences every spring so that I put them in good shape for the summer. Moreover, they almost invariably bear heifer calves, so that the flock increases rapidly. To these excellent qualities is now added the unexpected pair of twins. The strain is developing steadily, and some day Fenceviewer and her descendants will force the authorities to give them a corner in the herd book.

Unless there is a change in the weather before long the seeding will be delayed so much that we cannot expect much greater production. The rain has rained almost every day since spring began. Land that was fall plowed is as soft as mortar, and even sod is too wet for plowing. Of course, the country is well drained, and if we should get a few days of dry weather the work could go on, but at present the outlook is rather discouraging. Still, while waiting, I can feed the calves and watch them grow.

What the Ontario Legislature Did for Agriculture.

Much of agricultural interest transpired at the Session of the Ontario Legislature which has just concluded. As shown by the comparative statement, the regular appropriations for agricultural work have been made without very material change. The estimates, however, include one or two items of special interest. One was a special grant of \$1,000 to the Guelph Winter Fair to assist in clearing up the finances of the last show at which there was special expense due partially to war conditions. There was also provided a vote of \$1,000 to assist in the handling of co-operative live stock shipments to the West. As is well known by live-stock men, these shipments have in recent years been financed through the Live Stock Associations, but at the same time have been handled under the supervision of the Director of the Live Stock Branch of the Department. Owing to conditions which have arisen within these Associations in recent years, by reason of the proportion of the membership west of the Great Lakes, they felt that they could not continue using their funds for this purpose and hence an appeal was made to the Government during the February Live Stock meetings to assist in retaining for Ontario this very important trade. It is hoped, therefore, that the work will be not only maintained but developed.

In addition to the appropriations given in the statement, the Department is, of course, spending this year \$300,000 from the Federal Grant for agricultural instruction.

Changes in the Department.

As a result of legislation during the Session some changes have been made in the Department of Agriculture from the administrative standpoint. The Colonization Branch has been transferred from the Department of Agriculture to the Department of Lands, Forests and Mines. This Branch formerly belonged to the Department of Lands, Forests and Mines, but was transferred a few years ago. It has now been transferred back again in order to participate in the plans which the Department of Lands, Forests and Mines is working out in connection with New Ontario development. Needless to say the Department of Agriculture will continue to work in close co-operation especially in the matter of farm labor. Two other branches which for many years have been attached to the Department of Agriculture have also been transferred, namely, the Factory Inspection Branch and the Stationary Engineers' Branch. Legislation has been passed creating a Trades and Labor Branch of the Department of Public Works and combining all associated interests including the branches mentioned. While the administration entailed by these branches never constituted a very large part of the work of the Department, their removal leaves the Ontario Department of Agriculture one of the first, if not the first, exclusively agricultural departments in Canada.

Dairy Bill.

The most important agricultural legislation was, of course, that which dealt with the payment for milk at cheese and butter factories, which has already been reviewed in these columns. Briefly recapitulated this legislation provides that milk must be paid for on the basis of butter fat contained or butter fat plus 2 at cheese factories. Cream must be paid for at creameries on the basis of its quality, but no definite standard of quality has yet been laid down. The legislation in reference to cheese factories is timed to take effect April 1st, 1917, and that regarding creameries is to be brought into effect by proclamation of the Lieutenant-Governor-in-Council. At the present time, therefore, the bill is of an educational nature, but it was received with a marked degree of favor. A session of the Agricultural Committee was devoted to a discussion of this legislation and was participated in by many of the members. G. C. Pablow and Frank Hearn, Chief

Dairy Instructors for Eastern and Western Ontario respectively, were present and gave evidence as to the conditions in the Dairy Industry and the need of something of legislation along the line of the Bill to stimulate a greater attention to quality and give Ontario products a better standing in competition in the world's markets. One point which was particularly discussed was as to the method of doing good testing. It was recognized that accurate and reliable testing was one of the crucial points in connection with the legislation. While many of the cheese makers employed in cheese factories are quite competent to do this, there are many who are not. After careful consideration it was found impracticable to lay down any definite method at the present time, but the Department undertook to acquire information during the summer and carry on an educational campaign which would enable them to be in a better position next winter to make definite suggestions on this point. In fact the Minister stated that every effort would be made through the summer to give the bill and all information bearing on it, the widest circulation so that there could be a general and intelligent discussion at the meetings next fall and winter before any attempt was made to carry out the provisions of the Act.

Sheep Damages.

Legislation was also introduced by the Minister providing that henceforth sheep destroyed by dogs shall be paid for in full by municipal councils. In the past the Act has made provisions for indemnity only up to two-thirds of the value. Municipal councils have collected taxes on dogs to meet this indemnity, and in the great majority of cases the revenue from this tax has always exceeded the amount paid out on account of the loss of sheep. Under these circumstances it was felt that it would be no hardship to the municipality, and only an act of fairness to the sheep owners to allow full damages. Permission, however, was given to the municipality to increase the dog tax if they saw fit or if they found it necessary in order to secure enough money to pay the indemnities. Another small change was made in the Act to make it compulsory for the assessors to include all the dogs in the assessment roll. A fine of \$10 is now made for remission of this duty on the part of the assessor. The bill was received without any dissenting voice as there is a general desire to do anything that can be done to stop the decline of the sheep industry in this Province.

Auctioneers' Bill.

For several years past owners of pure-bred live stock have been handicapped in conducting auction sales of pure-bred stock. It was usually desired to secure an auctioneer who had special knowledge of the particular breed or breeds being offered. These auctioneers could only conduct the sales by taking out a local license in each county in which the sale was held. Legislation received consideration empowering any person conducting an auction sale at which 75 per cent. is registered pure-bred stock to take out a provincial license at a fee of \$25 per annum, application to be made to the Director of the Live Stock Branch. Some criticism was heard of this measure, as it was argued, that it was unfair to the local auctioneers. The reply was that it could not do the local auctioneer any harm and was a matter of convenience to the owners of pure-bred stock and therefore a benefit to the live-stock industry in general. The bill, however, did not carry.

District Representatives.

In the consideration of some of the estimates, the Leader of the Opposition inquired as to the policy of the Department in regard to dispensing with the Assistant Representatives in most of the counties for the ensuing summer months. The Minister replied that it was a

war measure designed to free as many as possible for active service or farm labor and at the same time interfere as little as possible with the efficiency of the work by making other arrangements. The situation was thoroughly explained in the letter sent out under date of March 31st. by the Assistant Deputy Minister, C. F. Bailey, advising District Representatives of this step and the reasons for it as follows:—

"I beg to advise you that it has been decided to dispense with the services of Assistants in the District Representative offices this summer with the exception of a few of the larger counties. The reasons for this have probably already occurred to you, but if not, I am sure will appeal to you at once.

"In the first place there are a considerable number of vacancies caused by the enlistments, and it seems hardly fair to those who have enlisted to fill their positions with other young men of military age. The demand for men for military service and the need for men to work on the farms is such that the Department is anxious to do everything that can be done, without too much sacrifice to the work in hand, to leave young men free for these calls. This I think is quite in accord with the public sentiment of the rural districts. In fact this view has been urged upon me by a number of the District Representatives themselves who have already gauged public sentiment in this regard.

Under these circumstances we have decided not to appoint anyone to the vacancies which have occurred and to dispense, after the first of May, with the services of the few others who are at present at work, with the exceptions already noted. I quite realize that this means some extra work and responsibility, but under the circumstances I know I can rely on you to exert your very best efforts, and that is all anyone can be expected to do. You should make it a point early in the season to visit personally the experimental plots, acre profit fields and also the new districts in which arrangements are being made to hold School Fairs. During the summer months arrangements may be made to have junior farmers, school teachers or other competent persons assist with the inspection of the children's lots, and also in the fall with the School Fairs. In this and in other ways we will be very glad to meet your wishes and help you whenever possible to make the very best of the circumstances as we find them, and I feel that the results will abundantly justify this decision."

New Ontario.

Important plans were announced by the Minister of Lands, Forests and Mines in reference to the development of the agricultural resources of New Ontario. Some few years ago, it will be recalled, a bill was passed authorizing the borrowing of the sum of \$5,000,000 for New Ontario development. Up to the present about half of this amount of money has been spent on roads which were badly needed in the North Country, but this new proposition of the Hon. G. H. Ferguson utilizes a portion of the balance of the credit note to assist settlers in other ways. Loans will be granted for the purchase of stock or for improvements up to a maximum of \$500 in an individual case, being secured by a lien on the land cleared. The plan includes a possible organization of creameries and cheese factories and other methods of assisting settlers. A closer supervision is also to be made in a settlement in the selection of land so that settlers will fill up one township before another is opened instead of being scattered over a large area. A commissioner is to be appointed to supervise the whole work who will work through special agents and Crown Land agents and others who will be very closely in touch with the situation. The plan will be watched with much interest.

Annual Resolution.

So much for things done. Now for things talked about. The Opposition introduced its resolution on

agricultural matters and the discussion occupied one whole afternoon and evening. The resolution called for agricultural schools, demonstration farms, co-operative credit systems, encouragement of co-operation and so forth. The Opposition in submitting this resolution declared that they were not criticizing the Department of Agriculture for its work, but were merely urging that it go farther. They thought additional steps should be taken to disseminate the information developed at the Ontario Agricultural College and other experimental stations. They particularly emphasized the value of education as a factor in developing the agricultural resources. The Government, of course, did not accept the resolution. They inserted an amendment which congratulated the farmers on the splendid response made to the patriotic appeal for greater production and expressed approval of the work done by the Department of Agriculture and confidence that further advances would be made in the future. The debate was participated in by many of the members of both sides and developed a very commendable degree of interest. The Minister of Agriculture in concluding the debate referred to the work which had been done by the Department in developing an interest in agriculture among the rising generation and intimated that if the time came when it was felt that further advances in the form of special agricultural schools would be justified the Government might be depended upon to undertake the enterprise. The debate throughout was conducted on both sides in the best of spirit and reflected a keen interest which all are taking at the present time in agricultural problems.

Appropriations for Agriculture.

	(Including Capital Account)	
	1915	1916
Civil Government, Printing Reports and Bulletins, Statistics, Miscellaneous.....	\$ 69,775.00	\$ 70,675.00
Agricultural College.....	350,893.29	335,141.00
Agricultural and Horticultural Societies.....	163,700.00	163,950.00
Live Stock Branch.....	57,325.00	50,647.24
Institutes Branch.....	41,000.00	41,072.24
Dairy Branch.....	64,150.00	64,150.00
Fruit Branch.....	62,025.00	62,325.00
Ontario Veterinary College.....	68,095.30	33,893.07
District Representatives.....	40,600.00	80,600.00
Demonstration Farm.....	10,000.00	10,000.00
	\$927,563.59	\$912,453.55

Note:—the Colonization Branch having been transferred, these estimates have been eliminated. The changes for the previous year are explained by the absence of \$30,000 and \$49,000 voted last year for capital expenditures at the Ontario Veterinary College and the Ontario Agricultural College respectively. In addition there was a special vote last year of \$8,500 in assisting in the payment of the losses through the explosion at the Eastern Winter Fair. The increase in the District Representative appropriation is a matter of bookkeeping, having been transferred from the Department of Education.

Forbes' Shorthorn Sale.

At the dual-purpose Shorthorn sale of A.&G. Forbes, the herd bull, Bullrush, went to J. C. Bricker for \$460. This was the top price of the sale. The total for the offering amounted to \$3,320.

Toronto, Montreal, Buffalo and Other Leading Markets.

Toronto.
Receipts at the Union Stock Yards, West Toronto, from Saturday, April 22, to Monday, April 24, numbered 77 cars, 1,274 cattle, 1,270 hogs, 40 sheep, 66 calves, 2 horses. Cattle were 25 cents per cwt. higher all round, when quality is considered, caused by light receipts. Steers, \$8.40 to \$9, by the load. A few odd cattle reached \$9.10. All other classes firm at quotations listed in the following report.

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

	City	Union	Total
Cars.....	51	446	497
Cattle.....	607	4,018	4,625
Hogs.....	439	11,040	11,479
Sheep.....	223	374	597
Calves.....	527	1,359	1,886
Horses.....	114	1,851	1,965

The total receipts of live stock at the two markets for the corresponding week of 1915 were:

	City	Union	Total
Cars.....	44	324	368
Cattle.....	367	4,983	5,350
Hogs.....	950	7,229	8,179
Sheep.....	289	345	634
Calves.....	79	586	665
Horses.....	201	65	266

The combined receipts at the two yards for the past week show an increase of 129 cars, 3,300 hogs, 1,221

calves, and 1,699 horses; and a decrease of 725 cattle, and 37 sheep, compared with the same date 1915. The horses, were en route to Italy, being fed and watered in transit.

Deliveries of cattle and hogs were moderately liberal, but still not enough to supply the demand for the latter. Sheep, lambs and calves are also short of supplying the demand. The supply of cattle was liberal on Monday, so much so that the packers were able to take off from 10 to 15 cents per cwt., and have four or five hundred left over unsold. These left-overs were cattle that drovers had paid the farmers too much for, and they held them over to see if the commission man could pull them out of the difficulty. If they had had them at the latter end of the week, perhaps he would be able to help them, as prices advanced at the end of the week, equal to the decline of the early part of the week; but, when the extra expenses are counted it is doubtful if such would be the case.

Choice cattle are in demand and likely to be for some time, and, while we are not in the habit of prophesying, we look for strong markets for all finished cattle up to prime. Farmers, keep your unfinished cattle even if you have to buy the feed to finish them, they will make you money by doing so. Why, the feeder buyers are looking for skeletons on which to put on flesh, and one buyer remarked, no matter how poor, so long as they are well bred and

good frames, on which to put good flesh. Stockers and feeders never sold better than during the past week.

Milkers and springers also were in demand, and prices were about \$5 per head in advance over last week. Choice cows sell at \$110 to \$115 per head.

Veal calves.—While receipts are larger, values have not decreased for the best qualities, in fact they are about 25 cents per cwt. firmer.

Sheep and lambs.—Values for sheep and lambs were never higher than at the present, and I doubt if there is another city right now on the American Continent in which ovine products are as valuable. Choice sheep, \$9 to \$10.50; choice yearling lambs, \$12 to \$13.85; spring lambs are worth all the way from \$8 to \$16.25 per head.

Hogs.—Porcine values were never higher. Hogs weighed off cars have sold at \$11.60 to \$11.75.

Butchers' Cattle.—Choice heavy steers at \$8.50 to \$8.75; choice butchers' cattle at \$8.25 to \$8.50; good butchers' at \$7.85; common butchers', \$7.60 to \$7.85; choice cows, \$6.75 to \$7; good cows, \$6.25 to \$6.50; medium cows, \$5.50 to \$5.85; common cows, \$5 to \$5.50; choice bulls, \$7 to \$7.25; good bulls, \$6.50 to \$6.75; common bulls, \$5.25 to \$6.

Stockers and Feeders.—These classes never sold better. Steers, short keep, 900 to 1,000 lbs., \$7.50 to \$7.85; steers, 750 to 850 lbs., at \$7 to \$7.40; stockers of light weights, \$6.50 to \$6.75.

The "Glenhurst" Ayrshire Sale.

Considering the times, the sale of Ayrshires at "Glenhurst" farm, owned by James Benning, Williamstown, Ontario, on April 19, was a success. The "Glenhurst" Ayrshires are one of Canada's pioneer herds and noted for producing not only prize-winners but record-makers of milk and fat. There was a large crowd and bidding was good after the first few animals were sold. The stock was in the pink of condition. Auctioneer Philips, M. L. A. of Huntingdon, Que., conducted the sale. Thirty-three cows realized \$8,720, averaged \$264.25. Three two-year-old heifers realized \$305, averaged \$101.66. Four yearling heifers brought \$387.50, averaged \$96.90. Two young heifer-calves averaged \$62.50. Ten yearling bulls averaged \$63.50. Eight young bull calves averaged over \$38. The sixty-two head realized \$10,987.50 or an average of \$177.25. The following are the names of animals selling for \$100 and over, together with the names of their purchasers and the price:

Glenhurst Torrs Mayor, J. T. Elder, Glenelm, Que.....	\$385
Royal Prince, H. Graham, Hawthorne, Ont.....	125
Redhills Sally, R. R. Ness, Howick, Que.....	375
Springhill Sally, Alex. Watt, Lancaster, Ont.....	350
Glenhurst White Ruth 2nd, R. R. Ness.....	290
Snowflake Maggie, Con. Hurley, Vankleek Hill, Ont.....	260
Glenhurst Flossie 2nd, A. J. Ness, Howick, Que.....	350
Torrs Cony 3rd, R. R. Ness.....	650
Glenhurst Torrs Lovely, A. J. Ness.....	360
Glenhurst Queen Floss, John A. McDonald, Williamstown.....	250
Glenhurst Violet, Hector Gordon, Howick, Que.....	400
Craigley Pansy 2nd, Geo. Finlayson, Ormstown, Que.....	300
White Polly of Glenhurst, Alex. Watt, Lancaster, Ont.....	350
Glenhurst Queen Floss 2nd, Con. Hurley.....	200
Glenhurst Primrose 6th, A. H. Graham, Hawthorne Ont.....	195
Nellie Ray, E. S. Maynard, Dexter, N. Y.....	200
Lessnessock's Brownie, E. S. Maynard.....	280
Pansy, E. S. Maynard.....	210
Springhill Agnes, D. A. McMillan, Kirkhill, Ont.....	155
Glenhurst Pessara, R. A. McGregor, Dalhousie Stn. Que.....	210
Glenhurst Floss 7th, Wm. Leitch, Cornwall, Ont.....	300
Glenhurst Brown Fay, R. J. Dafoe, Aultsville, Ont.....	200
Jean, E. S. Maynard.....	235
Glenhurst Brown Bell, Wm. Leitch.....	200
Glenhurst Lady Pearl, J. R. McLeod, Lancaster, Ont.....	300
Glenhurst Princess Ena, Geo. Clark, Martintown, Ont.....	300
Helen B., S. Fraser, Lancaster, Ont.....	195
Lessnessock Flora, D. C. Thompson, Hudson, Que.....	205
Glenhurst Lady Mary, Geo. Clark, Martintown, Ont.....	250
Glenhurst Pansy, David Tait, Bainsville, Ont.....	230
Queen, J. Snetsinger, Cornwall, Ont.....	200
Polly, Wm. Thompson, Athelstan, Que.....	145
Mayflower, Geo. Canhan, Avonmore, Ont.....	200
Lessnessock Annie, R. J. Dafoe, Aultsville, Ont.....	175
Glenhurst Belle's Marie, D. A. McMillan, Kirkhill, Ont.....	200

The Davies Estate Clydesdale Sale.

The large attendance, many from the Western Provinces, the spirited bidding, and the satisfactory prices paid for the registered Clydesdales at the dispersion of the horse section of the estate of the late Robt. Davies, held at the repository in Toronto, on Wednesday, April 19, was of a degree of success calculated to install a confidence in the horse-breeding operations of this country that will have lasting and beneficial results. The animals were an exceptionally choice lot, particularly well bred, and brought out in prime condition. Eighteen mares, from yearlings up to 20 years of age made an average of \$320, two sold for over \$500 each, eight for over \$400 each. The stallion Meteor (imp.) went to the bid of J. Walker, of Carnegie, Man., for an even \$900. The names of the animals sold, the price and names of purchasers are as follows:

Lady Loch [32986], J. R. Trotter, Brandon, Man.....	\$235
Mary Hart [35387], W. W. Wilson, Carnation, Alta.....	140
Princess Avon [35385], W. W. Wilson.....	225
Lady Angus, J. R. Trotter.....	190
Thornclyffe Carniola [33235], G. Brownridge, Georgetown.....	270
Thornclyffe Sapphire [33233], H. McGee, Lampton.....	450
Miss Gartley [32987], H. McGee.....	300
Miss Sapphire [32984], J. J. Merner, Zurich.....	465
Meteor (imp.) [9565], J. Walker, Carnegie, Man.....	900
Carniola (imp.) [15062], E. H. Carnahan, Meaford.....	400
Ingleston Jean (imp.) [15056], J. Walker.....	400
Miss Lochfergus [32985], W. W. Wilson.....	510
Heartsease (imp.) [15060], J. R. Trotter.....	310
Zarena (imp.) [15063], W. W. Wilson.....	420
Rosalind (imp.) [18822], R. J. Fleming, Toronto.....	450
Marietta (imp.) [15057], R. J. Fleming.....	500
Lady Tarbroch Cedric [2746], R. E. MacKie, Newcastle.....	175
Nelly Lynedoch [2803], J. R. Trotter.....	175
Princess Royal [3552], W. H. Crowther, Welland.....	175

Bryant's Dispersal Sale.

W. A. Bryant's herd of pure-bred Holsteins, many of them R. O. M. and R. O. P. cows, brought a total of \$1,990 at his dispersal sale. The nine mature cows averaged \$146, and ten heifers sold for an average of \$67.50. A number of Oxford Down sheep offered at the sale brought \$40 per pair. The following is a list of animals selling over \$100, together with the names of the purchasers:

Fancy King Ormsby, Dalton Sifton, Walkers.....	\$170
Rezetta Ormsby, Russell Bryant, Strathroy.....	185
Zetta Dewdrop De Kol, Russel Bryant.....	195
Abbecker Pauline Tryntje, James Burdon, Strathroy.....	155
Woodcrest Corothy De Kol (imp.), A. W. Patterson, Strathroy.....	110
Woodcrest Jewel Mechthilde, Russel Bryant.....	200
Dina De Kol Burke, James Burdon.....	160
Laurel Pietertje Goudgeld, Fred Merrick, Strathroy.....	115
Topsy Girl, James Burdon.....	105

Milkers and Springers.—Choice milkers and forward springers, \$85 to \$100; good cows, \$65 to \$75; common, \$50 to \$60.

Veal Calves.—Choice calves, \$10 to \$11; good calves, \$8.50 to \$9.50; medium, \$7.50 to \$8; common, \$4.50 to \$6; heavy, fat calves at \$6 to \$7.

Sheep and Lambs.—Light sheep sold at \$9 to \$10.50; heavy sheep, at \$7 to \$8; culls, \$6 to \$6.50; choice yearling lambs, \$12 to \$13.85; cull lambs at \$8 to \$11; spring lambs, \$8 to \$13 each.

Hogs.—Selects, weighed off cars, \$11.75; selects, fed and watered, \$11.35; and \$10.90, f.o.b. Sows, \$2.50; and stags \$4, less than these prices.

Country Produce.

Butter.—Butter declined slightly on the wholesales during the week. Creamery, fresh made lb. squares, 34c. to 35c.; creamery, solids, 32c.; separator dairy, 32c.

Eggs.—New-laid eggs remained stationary, and were quoted at 23c. to 24c. per dozen.

Cheese.—19c. to 19½c. per lb. Honey.—Unchanged, at 13c. to 13½c. Poultry.—Live-weight: Chickens, 18c. to 20c. per lb.; ducks, 18c.; geese, 12c.; turkeys, young, 20c.; fowl, heavy, 18c.; fowl, light, 16c.

Hides and Skins.

Lamb skins and pelts, \$1.20 to \$1.25; sheep skins, city, \$2 to \$3; sheep skins, country, \$1.50 to \$2.50; city hides, \$14

THE FARMER'S ADVOCATE

Capital Paid
Reserve Fund
Total Assets
HEAD OFFICE
Branches in
of the L
Accounts
Sale
Savings

18c.; country
country hides,
country hides,
skins, per lb.,
18c.; horse hair
horse hides, N
hides, No. 2,
6½c. to 7½c.
44c.; wool, rejected
unwashed, 28c.
Who
Red clover,
\$27.50; red clover
\$25.50; alsike,
\$22; alsike, No.
alfalfa, No. 1, cv
No. 2, cvt., \$22
1; cvt., \$12 to \$2
\$10.50 to \$11.

Wheat.—Ontario
\$1 to \$1.02; No.
\$1; No. 3 com
feed wheat, 86c.
store Fort Wil
\$1.14½; No. 2
northern, \$1.09½
Oats.—Ontario
45c.; commercial,
oats (in store, Fort
46½c.; No. 3 C
1 feed, 44½c.;
store, Fort William
Peas.—According
No. 2, \$1.60; acco
to \$1.50.
Barley.—Accord
malting barley, 62
59c. to 62c.
Buckwheat.—
outside, nominal,
Rye.—According
No. 1 commercial,
according to samp
Corn.—America
No. 3 yellow, 8
Toronto, feed, 70
Flour.—Manitow
jute bags, \$6.50; s
bags, \$6; strong
bags, \$5.80. Ont
ing to sample, \$
Toronto; \$4.30 to

Hay and
Hay.—No. 1, pe
to \$20; No. 2, ne
to \$17.
Straw.—Car lots
track, Toronto.
Bran.—Per ton,
Shorts.—Per ton
Middlings.—Per
Good Feed Flour
\$1.70.

Wholesale Fruit
Turnips are be
and have advanced
the wholesales.
The new vegeta
freely, and are
Carrots, \$1.10 per
\$2 per hamper; ca
per case, \$1.25 to
beets, \$1 per doz
\$2.50 to \$2.75 per
per bag.
Old cabbage is ju
ket, the small quan
to \$1.50 per bbl.
Old carrots remain
to \$1.25 per bag, a
parsnips bringing 80c
The first straight
strawberries for th
Thursday from T
selling at 30c. per
The second straig

THE ROYAL BANK OF CANADA

Capital Authorized - - \$ 25,000,000
Capital Paid up - - - 11,785,000
Reserve Funds - - - 13,236,000
Total Assets - - - 214,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province of the Dominion of Canada.

Accounts of Farmers Invited
Sale Notes Collected

Savings Department at all Branches

18c.; country hides, cured, 16c. to 17c.;
country hides, part cured, 15c. to 16c.;
country hides, green, 14c. to 15c.; calf
skins, per lb., 20c.; kip skins, per lb.,
18c.; horse hair, per lb., 37c. to 40c.;
horse hides, No. 1, \$4 to \$5; horse
hides, No. 2, \$3 to \$4; tallow, No. 1,
6 1/2c. to 7 1/2c.; wool, washed, 40c. to
44c.; wool, rejections, 33c. to 35c.; wool,
unwashed, 28c. to 32c.

Wholesale Seeds.

Red clover, No. 1, cwt., \$25.75 to
\$27.50; red clover, No. 2, cwt., \$25 to
\$25.50; alsike, No. 1, cwt., \$19.50 to
\$22; alsike, No. 2, cwt., \$17.50 to \$18;
alfalfa, No. 1, cwt., \$24.50 to \$27; alfalfa,
No. 2, cwt., \$22 to \$22.50; timothy, No. 1,
cwt., \$12 to \$14; timothy, No. 2, cwt.,
\$10.50 to \$11.

Breadstuffs.

Wheat.—Ontario, No. 1 commercial,
\$1 to \$1.02; No. 2 commercial, 98c. to
\$1; No. 3 commercial, 95c. to 97c.;
feed wheat, 86c. to 88c. Manitoba (in
store Fort William)—No. 1 northern,
\$1.14 1/2; No. 2 northern, \$1.13 1/2; No. 3
northern, \$1.09 1/2.

Oats.—Ontario, No. 3 white, 44c. to
45c.; commercial, 43c. to 44c. Manitoba
oats (in store, Fort William), No. 2 C.W.,
46 1/2c.; No. 3 C.W., 44 1/2c.; extra No.
1 feed, 44 1/2c.; No. 1 feed, 43 1/2c., in
store, Fort William.

Peas.—According to freights outside,
No. 2, \$1.60; according to sample, \$1.20
to \$1.50.

Barley.—According to freights outside,
malting barley, 62c. to 63c.; feed barley,
59c. to 62c.

Buckwheat.—According to freights
outside, nominal, 69c. to 70c.

Rye.—According to freights outside,
No. 1 commercial, 89c. to 90c.; rejected,
according to sample, 85c. to 87c.

Corn.—American (track, Toronto),
No. 3 yellow, 85c.; Canadian (track,
Toronto), feed, 70c. to 71c.

Flour.—Manitoba first patents, in
jute bags, \$6.50; second patents, in jute
bags, \$6; strong bakers', in jute
bags, \$5.80. Ontario, winter, according
to sample, \$1.15 to \$1.25, track,
Toronto; \$1.30 to \$1.40, bulk, seaboard.

Hay and Millfeed.

Hay.—No. 1, per ton, best grade, \$19
to \$20; No. 2, per ton, low grade, \$14
to \$17.

Straw.—Car lots, per ton, \$6.50 to \$7,
track, Toronto.

Bran.—Per ton, \$24.

Shorts.—Per ton, \$25.

Middlings.—Per ton, \$26.

Good Feed Flour.—Per bag, \$1.60 to
\$1.70.

Wholesale Fruits and Vegetables.

Turnips are becoming very scarce,
and have advanced to 60c. per bag on
the wholesales.

The new vegetables are coming in
freely, and are selling as follows:
Carrots, \$1.10 per dozen large bunches;
\$2 per hamper; cabbage, \$2.75 to \$3
per case, \$1.25 to \$1.50 per hamper;
beets, \$1 per dozen bunches; celery,
\$2.50 to \$2.75 per case; turnips, \$1.75
per bag.

Old cabbage is just about off the mar-
ket, the small quantity left selling at \$1
to \$1.50 per bbl.

Old carrots remain stationary at \$1.10
to \$1.25 per bag, according to quality;
parsnips bringing 80c. to 90c. per bag.

The first straight car of Florida
strawberries for this season came in
Thursday from Tennessee, and are
selling at 30c. per quart box.

The second straight car of California

asparagus to enter Toronto came in
Thursday; (the first having come in one
week ago). It is of choice quality,
and sells at \$4.25 to \$6 per dozen
bunches, according to quality and size.

Florida tomatoes are showing a firming
tendency, and now sell at \$3 to \$3.50
per six-basket crate.

Oranges vary in price, according to
size. Small sizes, which are in greater
demand, being exceedingly scarce, bring
high prices; while the large sizes are low.
The Navels sell at \$2.25 to \$4 per case;
Mediterranean Sweets at \$3 to \$3.50
per case.

Montreal.

The principal market for Easter cattle
took place in the early part of last week,
when dealing was fairly active. The
quality of the offerings was fairly good,
and quite a large number of fancy ani-
mals were available. These sold up to
around 9 1/4c. per lb., the range for fancy
steers being from 9c. to 9 1/4c., a few
animals being reported even higher.
Fine stock was 8 1/2c. to 8 3/4c. per lb.,
and some fairly good animals sold around
8c. Lower grades ranged down to 7 1/4c.,
and butchers' cows and bulls sold gen-
erally from 6 1/2c. to 8 1/2c., covering all
qualities. Lambs of whatever grade
were in active demand. Offerings were
small and insufficient to completely
supply the demand, and as a conse-
quence prices were firm at 11 1/4c. to
12c. per lb. for yearlings, and \$5 to \$12
each for spring lambs, according to size
and quality. The market for sheep was
active at 7 1/2c. to 8 1/2c. The supply
of calves was liberal, and sales of choice
stock took place at 8c. to 9c. per lb.,
while the lower grades sold at 4 1/2c. to
5 1/2c. per lb. Demand for hogs con-
tinued brisk, and offerings were fairly
liberal, selected lots selling at 12c. to
12 1/4c. per lb., weighed off cars.

Horses.—Demand for horses has been
rather better of late weeks than for a
considerable time past. Quite a few of
the smaller animals have been shipped
back to the country for use by farmers,
and carters have bought the larger
animals freely. The market was un-
changed. Heavy draft horses, weighing
1,500 to 1,700 lbs., have been reported
sold at \$200 to \$250 each, while light
draft horses, weighing 1,400 to 1,500 lbs.,
were quoted at \$150 to \$250 each.
Small horses were \$100 to \$125 each,
and culls \$50 to \$75. Occasional sales
of fine saddle and carriage animals were
made at \$200 to \$250 each.

Dressed Hogs.—The market for
dressed hogs was very firm, and prices
showed slight advance in sympathy
with the strength of the market for
live. Sales of small lots of abattoir-
dressed, fresh-killed hogs were made at
16 1/4c. to 16 1/2c. per lb., these being
among the highest prices on record.

Poultry.—The market was more active
last week than for some time past,
owing to the Easter holidays. Prices
were steady at 24c. to 27c. for turkeys;
22c. to 24c. for chickens; 17c. to 19c. for
geese and fowl, and 19c. to 20c. for
ducks.

Potatoes.—Trade in potatoes con-
tinued fairly active, and prices were
steady at \$1.75 to \$1.80 per bag of 90
lbs., in car lots for best quality, smaller
lots being 15c. per bag additional.

Maple Syrup and Honey.—Indications
are that the make of maple syrup will
turn out to be about an average. There
was a fair demand for new syrup in
8-lb. tins at 85c. to 95c. each. Sugar
was quoted at 13c. to 14c. per lb.
Honey was in moderate demand at
14 1/2c. to 15c. per lb. for white clover
comb, and 12c. to 12 1/2c. for extracted;
12c. to 13c. for brown clover comb, and
10c. to 11c. for extracted. Buckwheat
honey was 9c. to 10c. per lb.

Eggs.—Supplies are constantly in-
creasing, and notwithstanding the active
demand which developed for Easter,
the price was lower. In round lots,
25c. to 25 1/2c. was quoted, but in single
cases 26c. was the price.

Butter.—Receipts are increasing, but
prices continued steady at 33c. to 33 1/2c.
for finest creamery, and 32 1/2c. to 33c.
for fine, with seconds at 31 1/2c. to 32c.

Cheese.—Finest cheese was 18 1/2c. to
18 3/4c., and fine 18c. to 18 1/4c., with
winter made goods at 17 1/2c. to 17 3/4c.

Grain.—While the wheat markets
have fluctuated considerably, no very
definite change has taken place, and
dealers quoted No. 1 commercial white
winter wheat, in car lots, at \$1.05 to
\$1.08 per bushel. Oats were decidedly

higher than the previous week; Ontario
and Quebec No. 2 white being 50 1/2c.
to 51c.; No. 3 being 49 1/2c. to 50c.,
and No. 4, 48 1/2c. to 49c. per bushel,
ex-store. Canada Western oats were up
to 54 1/2c. for No. 2; 53c. for No. 3, and
extra No. 1 feed; 52 1/4c. for No. 1 feed,
and 51 1/2c. for No. 2 feed.

Flour.—Demand was light and prices
unchanged at \$6.60 per barrel, in bags,
for Manitoba first patents; \$6.10 for
seconds, and \$5.90 for strong bakers'.
Ontario patents were \$6, and straight
rollers \$5.30 to \$5.40 per barrel, in
wood, and \$2.50 per bag.

Hay.—The market again advanced,
and No. 1 hay was quoted at \$21.50
to \$22 per ton; extra good No. 2 at \$21;
No. 2 hay at \$20.50, and No. 3 at \$19.
Clover mixed was \$18 per ton.

Seeds.—Demand was active. Quota-
tions per 100 lbs. were \$10 to \$15 for
timothy; \$22 to \$27 for red clover, and
\$17 to \$24 for alsike, Montreal.

Hides.—The market was steady at
30c. per lb. for No. 1 calf skins, and 28c.
for No. 2; 21c., 20c. and 19c. for No's.
1, 2 and 3 beef hides, respectively.
Sheep skins were \$2.50 each, and horse
hides, \$2.50 to \$3.50 each. Rough tallow
was 1 1/2c. to 2 1/2c. per lb., while rendered
was 7c. to 7 1/2c. per lb.

Buffalo.

Cattle.—Notwithstanding prices on
cattle were declined somewhat last week,
values remained very high, ten cent
steers being disposed of again in larger
numbers than the week before, with
Canadians selling at nine cents readily,
the Dominion steers bringing the price,
weighing less than twelve hundred
pounds. Handy butchering steers sold
up to \$9.15 to \$9.40, and fancy cows
and heifers ranged up to \$8.50 to \$9.10.
General market was a dime to fifteen
cents lower, with the top kinds of ship-
ping steers ruling about steady. Stock-
ers and feeders sold strong, straight
loads, averaging around 750 lbs., selling
at \$7.75 to \$8. Little, common stock-
ers are running from \$5.60 to \$6.50,
averaging up generally around six cents.
Bulls were firm sale, tops bringing
\$7.60 to \$7.75. Milcher and springer
trade is showing some improvement, the
demand being better with the appear-
ance of grass. Outlook is favorable for
all classes of steers. Local killers main-
tain that they are paying higher prices
than ever before in the history of the
trade at this time of the year. Shipping
steers are coming better than for a
while back, and some of the best Can-
adians ever marketed on the local mar-
ket have been coming of late weeks,
and more of these well-finished kinds
were wanted. Receipts last week were
3,975 head, as against 4,650 head the
week before, and 3,935 head for the
corresponding week last year. Quota-
tions:

Shipping Steers.—Choice to prime
natives, \$9.40 to \$10; fair to good, \$8.75
to \$9.15; plain, \$8.40 to \$8.60; very
coarse and common, \$8 to \$8.25; best
Canadians, \$8.75 to \$9.25; fair to good,
\$8.25 to \$8.50; common and plain,
\$7.75 to \$8.10.

Butchering Steers.—Choice, heavy,
\$8.75 to \$9; fair to good, \$8 to \$8.50;
best handy, \$8.85 to \$9.25; common to
good, \$8 to \$8.75; light, thin, \$7.50 to
\$7.85; yearlings, prime, \$8.75 to \$9.35;
yearlings, common to good, \$8.25 to
\$8.65.

Cows and Heifers.—Prime, weighty
heifers, \$7.50 to \$8.50; best handy
butcher heifers, \$7.75 to \$8.25; common
to good, \$6.50 to \$7.50; best heavy, fat
cows, \$6.50 to \$7.50; good butchering
cows, \$6 to \$6.50; medium to fair, \$5
to \$5.75; cutters, \$4.25 to \$4.75; canners,
\$3.25 to \$4.

Bulls.—Best heavy, \$7.25 to \$7.75.
Milchers and Springers.—Good to
best, in small lots, \$75 to \$90; in car
loads, \$60 to \$70.

Stockers and Feeders.—Best feeders,
\$7.25 to \$7.50; common to good, \$6.50
to \$6.75; best stockers, \$6.50 to \$6.75;
common to good, \$5.75 to \$6.25.

Hogs.—Prices showed a downward
tendency last week. Monday top was
\$10.45, few sold at \$10.40, bulk moved
at \$10.35, and pigs landed at \$9.50.
Tuesday there was a little reaction,
and the next three days prices were gen-
erally lower, best grades on Friday selling
at \$10 and \$10.05, with pigs around
\$9.25. Roughs the fore part of the week
reached up to \$9.35, and during the
low time or on Friday they landed
mostly at \$9. Stags went from \$8 down.

Receipts last week were approximately
24,000 head, as compared with 27,189
head for the week previous, and 29,400
head for the same week a year ago.

Sheep and Lambs.—Buffalo made a
new high mark for wool lambs last week,
one double deck selling Monday at
\$12.25, and this price was secured for
two loads on Tuesday. Bulk of the
desirable wool lambs, however, sold at
\$12. As the week advanced the market
became weaker, and on Friday the best
ones could not be placed above \$11.75.
Clipped lambs comprised the big end
of the crop, and during the entire week
the most desirable ones showed a range
of from \$10.25 to \$10.50, with culls
going from \$9 down. Heavy lambs
were very low sale, some choice 95
pounds with wool selling at \$11, and
some 100 pound shorn lambs landed
down to \$9.10. Sheep were scarce and
steady, choice shorn wethers selling
from \$8.25 to \$8.50, with ewes \$7.75
down. Receipts last week were 20,500
head, being against 14,129 head for the
week before, and 19,100 head for the
same week a year ago.

Calves.—All marketing points showed
very heavy receipts last week, and the
result was that prices struck the lowest
level of the season. Buffalo's run for
the week reached close to 6,000 head,
as against 4,469 head for the previous
week, and 4,200 head for the same week
a year ago. Prices were lower as the
week advanced. Monday tops sold gen-
erally at \$11.25, with some \$11.50;
Tuesday it was hard to get above
\$10.75; Wednesday nothing brought
above \$10.50; Thursday's top was
\$10.25, and Friday the bulk moved at
\$10. Cull grades during the low time
of the week sold from \$9 down.

Chicago.

Cattle.—Beeves, \$7.85 to \$9; stock-
ers and feeders, \$5.40 to \$8.50; cows and
heifers, \$4 to \$9.20; calves, \$7 to \$10.

Hogs.—Light, \$9.25 to \$9.85; mixed,
\$9.40 to \$9.80; heavy, \$9.25 to \$9.85;
rough, \$9.25 to \$9.40; pigs, \$7.25 to \$9.

Sheep.—Native, \$6.90 to \$9.10; lambs,
native, \$7.60 to \$11.65.

Attractive Dining Car Service.

Probably nothing helps more to make
a railway journey really enjoyable than
a visit to the "Dining Car", especially
if it be a Canadian Pacific Dining Car,
where the passenger is assured of the
highest form of efficiency in the culinary
art, the choicest provisions the market
affords, prepared on the scientific principle
known as "Dietetic Blending."

Your favorite dish, as you like it,
may be enjoyed at reasonable cost,
amidst ideal surroundings, while travel-
ling on the Canadian Pacific.

Canadian turnips have been an issue
lately before the United States Board
of General Appraisers. One shipment
from an Ontario point had been entered
at a valuation of 14 cents per bushel,
which the Customs officials held too
low and took duty on a higher level.
The entry rate, however, was sustained
but in another case the officials were
sustained on a basis of 17 cents instead
of 14 cents a bushel as entered.

Gossip.

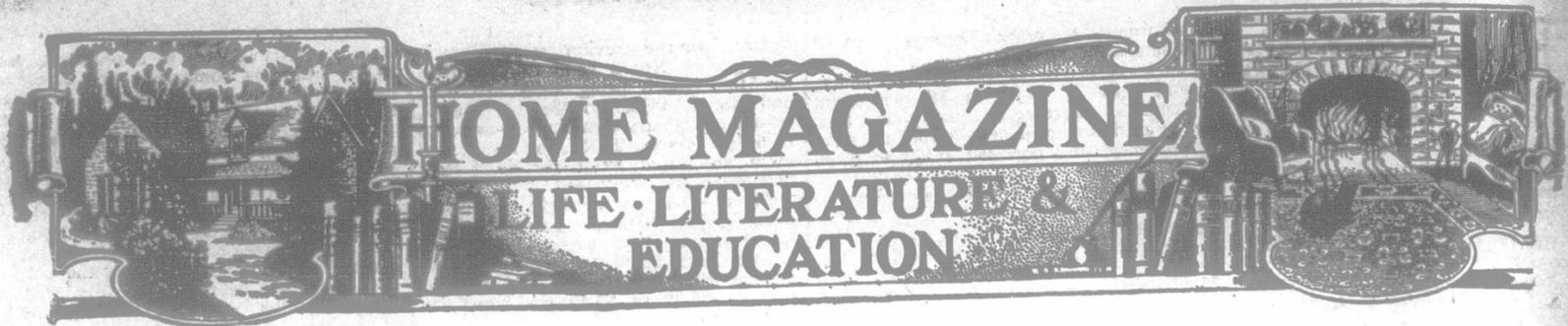
Refer to the advertisement in this
issue re C. C. Kettle's sale of Holsteins.
It will be held on Tuesday, May 2,
when 36 head will be sold. Some of
the offering are Toronto and London
prize winners. Holstein type and
Holstein production are to be had at
this sale. Write for catalogue to C. C.
Kettle, Wilsonville, Ont.

The entire herd of 75 Holsteins, the
property of Sir H. M. Pellatt, on his
Lake Marie Farm, 1 1/4 miles north of
King Station, will be sold by auction on
Thursday, May 11. The herd is in ex-
cellent condition; they have excellent
backing, and the females are good pro-
ducers. See the advertisement and
write the manager, R. S. Starr, King,
Ont., for a catalogue.

Sale Dates Claimed.

May 2.—C. C. Kettle, Wilsonville,
Ont.; Holsteins.

May 11.—Sir H. M. Pellatt, Lake
Marie Farm, King, Ont.; Holsteins.



Outlook.

Not to be conquered by these head-long days,
But to stand free: to keep the mind at brood
On Life's deep meaning, Nature's attitude
Of loveliness, and time's mysterious ways;
Of every thought and deed to clear the haze
Out of our eyes, considering only this,
What man, what life, what love, what beauty is,
This is to live and win the final praise.
Tho' strife, ill-fortune and harsh human need
Beat down the soul, at moments blind and dumb
With agony: Yet, patience—there shall come
Many great voices with Life's outer sea,
Hours of strange triumph, and, when few men heed,
Murmurs and glimpses of eternity.
—Archibald Lampman.

Scene in a Field Hospital.

WALT WHITMAN.

A sight in camp in the daybreak gray and dim,
As from my tent I emerge so early sleepless,
As slow I walk in the cool, fresh air the path near by the hospital tent,
Three forms I see on stretchers lying, brought out there untended lying,
Over each the blanket spread, ample, brownish woollen blanket,
Gray and heavy blanket, folding, covering all.
Curious I halt and silent stand,
Then with light fingers I from the face of the nearest the first just lift the blanket;
Who are you elderly man so gaunt and grim, with well-gray'd hair, and flesh all sunken about the eyes?
Who are you my dear comrade?
Then to the second I step—and who are you my child and darling?
Who are you sweet boy with cheeks yet blooming?
Then to the third—a face nor child nor old, very calm, as of beautiful yellow-white ivory;
Young man I think I know you—I think this face is the face of the Christ himself,
Dead and divine and brother of all, and here again he lies.

Among the Books

Whitman as a War Nurse, 1862-64.

Walt Whitman, the most noted American poet, was born on a farm on Long Island on the 31st May, 1819. After a life of many changes but no great outstanding event, save the writing of some of his unique, challenging, much-discussed, much-derided, much-misunderstood, and much-lauded poems, and after breaking down his health working among the sick and wounded soldiers of the great Civil War, he finally drifted to Camden, Philadelphia,

where, after suffering a paralytic stroke, he lived with a brother until his death in 1892. Whitman once took a trip to Canada, and there are still a few in London, Ontario, who remember seeing him during his visit with the late Dr. Bucke, author of a work on "Cosmic Consciousness." In Camden, as de Selincourt tells us, Whitman gradually became the centre of a coterie of enthusiasts; "a man cannot be a mark for pilgrimage and attract no attention locally." The pilgrims, it is true, came from afar, for Whitman is just coming to his own in America. During his lifetime, and much to his disappointment, he was taken up least of all by the people for whom he wrote, the great commonality of the Republic, but from the beginning he was appreciated in Europe, where he is ranked to-day as the greatest American literary genius.—The following extract about his nursing days has been taken from "Walt Whitman: A Critical Study," by Basil de Selincourt. Published by the Martin Secker Pub. Co., 5 John St., Adelphi, London, England.

The war was the test of Whitman's character, and the heroism it evoked in him throws a compelling splendor of light backwards and forwards over the whole course of his days. Some have professed surprise that he did not volunteer for service in the ranks, or have thought it necessary to allege the streak of Quakerism in his blood. But a poet, like a general, has conflicting duties in war-time; indeed it is a point of military virtue that he should not needlessly expose his person. Whitman felt it his duty to determine not merely what he could do but what he could do best for his country. And it fell to his lot in the end not so much to risk death once as to die daily. He surrendered his life drop by drop, and the survivor of the war, though he survived it by nearly thirty years, was a mutilated veteran.

Instinct, which time has proved to have been inspiration, told him that he, of all men, could provide for the great struggle its imaginative theatre. So late as November 1863, when he had been already over a twelvemonth in the wards, he wrote to his friend, Charles Eldridge, "I feel to devote myself more and more to the work of my life, which is making poems, I must bring out 'Drum Taps.' I must be continually bringing out poems." His brother George had volunteered for service with the Union troops; down South, linked, we may suppose, if not identified with the Secessionist cause, were other hearts with which his own could not but beat. (He had lived in the South for some time.) He remained at home during the first eighteen months of the struggle, and it was there that a large part of "Drum Taps" was composed. At last, hearing that George had been wounded, he set out for the front, and, once among the scenes of the war, found his high and rarefied poet's consciousness engulfed and obliterated before daily and hourly calls upon his common human sympathies. "During my two years in the hospitals and upon the field," he wrote from Washington to the New York Times in December, 1864, "I have made over six hundred visits and have been, as I estimate, among from eighteen to twenty thousand of the wounded and sick, as sustainer of spirit and body in some slight degree, in their hour of need." Supporting himself by ill-paid secretarial work in a Government office, he devoted all his energies to nursing, not giving up, though his health was repeatedly threatened, so long as a single wounded man was left in Washington.

Any cash he could put by (his own wants were confined now and always to the bare necessities of life), and any he could collect from friends, always

went to provide for the soldiers those small luxuries and comforts which he knew did more than anything to suggest the atmosphere of recovery. Sometimes after consultation with the doctor, there would be an ice-cream treat for the whole ward; but as a rule he would bring a variety of small trifles, chosen to meet the whims of various patients and make them feel that they were remembered—for this man an apple, for that a stick of candy, and so on; and never, while funds lasted, were his capacious pockets without their supplies of stamps, writing paper, and above all, though he was not himself a smoker, of tobacco.

This was action on an heroic scale; but perhaps no one but Whitman could have supplemented it with the last and most endearing touch. It is beautiful that the poet should become a nurse; it is still more beautiful that the nurse should not forget he is a son. All through the strain and preoccupation of his work, Whitman never failed to find time for a weekly letter to his mother. These letters, long afterwards published under the title of "The Wound-Dresser," should be read by any who doubt Whitman's claim to a place in the communion of saints. Tenderness and devotion are predominant features in them:—"I believe no men ever loved each other as I and some of these poor wounded, sick and dying men love each other"—but perhaps their most noteworthy quality is the complete self-possession they display. Fully aware of the momentous nature of the events which are passing on every side of him, Whitman is never betrayed into a touch of false fervour; never exaggerates any of his feelings by a hair. He turns quite naturally from tragic narrative to take his part in the small cares of the daily life of the family:—

"Well, mother, I should like to know all the domestic affairs at home, don't you have the usual things eating, etc.?
Mother don't you miss Walt loafing around, and carting himself off to New York toward the latter part of every afternoon?"

Among his thoughtfully chosen offices was that of writing letters for the soldiers to friends and sweethearts; and in the case of death he would often write, on his own account, to the parents in the unknown home:—"Mr. and Mrs. Haskell,—Dear Friends, I thought it would be soothing to you to have a few lines about the last days of your son Erastus Haskell. . . . I used to sit by the side of his bed, generally silent; he was oppressed for breath and with the heat, and I would fan him. . . . Sometimes when I would come in he woke up, and I would lean down and kiss him; he would reach out his hand and pat my hair and beard. . . . I shall never forget those nights, in the dark hospital. It was a curious and solemn scene, the sick and wounded lying all around, and this dear young man close to me, lying on what proved to be his death-bed. I do not know his past life, but in what I saw and know of he behaved like a noble boy."

Looking back on it, Whitman gave the war a significance for his literary development which it had not really possessed. In a farewell essay he writes that "without these three or four years and the experience they gave, 'Leaves of Grass' would not now be existing," and by an arrangement which violates chronology he has made "Drum Taps," which contains some of his most moving and memorable passages, the pivot of his book. He regarded himself and we regard him as peculiarly the poet of the war; yet, as we have seen, the bulk of his most characteristic expression preceded it. He was, indeed, always more sensitive to truth of principle than accidents of fact; and the truth here was that the national feeling

which found its expression in the war had in him been strong enough to anticipate such an expression, so that, when the war came, the poems which it might have evoked were written already, leaving their writer at liberty to enact them, and to exhibit in his own person a supreme poem of comradeship and love. Nothing that left Whitman's hand after the war has quite the old unquenchable and intoxicating bravura of independence and we often feel him striving for the effects he does not reach. But the power on which those old frenzies were stayed has been revealed to us; we recognize in his message a greatness which only devoted action could fitly crown.

Smiles.

They were a very saving old couple, and as a result they had a beautifully furnished house.

One day the old woman missed her husband.

"Joseph, where are you?" she called out.

"I'm resting in the parlor," came the reply.

"What, on the sofa?" cried the old woman, horrified.

"No, on the floor."

"Not on the grand carpet!" came in tones of anguish.

"No; I've rolled it up!"

A certain college president wore side-whiskers. Whenever he suggested removing them, there was a division of opinion in the family. One morning he entered his wife's dressing-room razor in hand, with his right cheek shaved smooth.

"How do you like it, my dear?" he asked. "If you think it looks well, I will shave the other side, too."—Facts and Fancies.

Young Wife: "Oh, Montague, you do believe that I am always thinking of economy, don't you?" Young Husband: "Eleanor, your shilling telegram this afternoon telling me where to go to save sevenpence on a carpet-broom warns me that you are thinking of it too much!"

"How old is your big sister?" asked a caller of a little girl who was entertaining him in a Washington home until said big sister came in.

"Well," replied the little girl, "I don't know just how old she is; but she has got to the age when tea rests her."

April Song.

BY F. L. LITTLE.

Gods garden is this deep still wood,
Filled full of tender healing;
Here, April sings in gladdest mood,
"Each twelvemonth I come stealing."

I kiss the stream that has been bound,
I brush the supple willow,
I lay my soft cheek on the ground—
Beneath it springs a pillow.

Of moss and grass and wild-flower stalks,
Ah, summer, you are older,
And gayer bloom will deck your walks,
But mine is sweeter, bolder.

God's garden is this deep still wood,
And I the fickle vagrant—
I am the gardener he sends
To make it fair and fragrant.

Hope

A Warning

"Dust thou art
Hear these
Lest Thou regret
In that last

Pray listen to
All those who
For on that day
For those who

"Come unto me
Come unto me
O, listen to the
And lean upon

Hark to the ble
He giveth to yo
And you shall
His angels gu

I know the road
That leadeth
And sometimes
sorrow,
But 'tis the ro

So where He lead
E'en when our h
Then in the Va
He will not le

Then death, th
conquered,
Shall lose its
And when we re
We shall behol

Thank you,
letter and the c
It has gone out
woman who has
year.—HOPE.

The Glory

Is not this the

VI:3.
"God keep us thr
The level stretc
When thought is
Their burdens f
In days of slowl
Then most we
prayer."

The Great Teac
as a Carpenter
until He was al
Then the Spirit
mighty power, s
Him, was seen a
world. Great mu
to the wonderful
love which pour
was surrounded
scarcely allow Hi
His quiet word
raging sea of Ga
a maniac to rea
child from the
He returned to
His blameless ho
teach in the syn
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not this the Carpe
the brother of Je
of Jude, and Sim
sisters here with
How could He be
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been content to st
workmen as one of
Our Lord said
"A prophet is n
in his own countr
kin, and in his
faithfulness hind
so that "He could
work" except the
folk. Perhaps the
to seek His help,
than the others.

We have a com
ity breeds cont
"Distance lends
view. Many, wh
beneath their dig
carpenter as a fri
reverence to the
We can see His g
but perhaps if we
when He walked
we might have

Hope's Quiet Hour.

A Warning to the Ungodly.

"Dust thou art to dust returnest,"
Hear these solemn words, I pray,
Lest Thou regret, thou hast not listened,
In that last awful judgment day.

Pray listen to this timely warning,
All those who tread the paths of sin,
For on that day there shall be mourning
For those who have not honored Him.

"Come unto me, ye who are weary,
Come unto me, I'll give thee rest"
O, listen to the words of Jesus,
And lean upon His loving breast.

Hark to the blessed invitation
He giveth to you day by day,
And you shall have great consolation
His angels guard thee all the way.

I know the road is rough and narrow,
That leadeth to the fold of God,
And sometimes filled with pain and
sorrow,
But 'tis the road that Christ has trod.

So where He leads, come let us follow,
E'en when our heart cries with the pain,
Then in the Valley of the Shadow,
He will not leave our side again.

Then death, that Jesus Christ hath
conquered,
Shall lose its sharp and painful sting.
And when we reach the Shining River
We shall behold our Heavenly King.
WILD ROSE.

Thank you, "Wild Rose", for your
letter and the dollar "for the needy."
It has gone out at once to a poor young
woman who has been ill more than a
year.—HOPE.

The Glory of Common Things.

Is not this the Carpenter?—St. Mark VI.3.

"God keep us through the common days,
The level stretches white with dust,
When thought is tired, and hands upraise
Their burdens feebly since they must
In days of slowly fretting care,
Then most we need the strength of
prayer."

The Great Teacher had worked quietly
as a Carpenter in His little home town
until He was about thirty years old.
Then the Spirit led Him forth; and the
mighty power, so long hidden within
Him, was seen and recognized by the
world. Great multitudes listened eagerly
to the wonderful words of wisdom and
love which poured from His lips. He
was surrounded by crowds who would
scarcely allow Him time to eat or sleep.
His quiet word of Peace had calmed the
raging sea of Galilee. He had restored
a maniac to reason and raised a dead
child from the sleep of death. Then
He returned to the people who knew
His blameless home-life, and began to
teach in the synagogue; but His old
neighbors were offended at Him. "Is
not this the Carpenter, the son of Mary,
the brother of James, and Joses, and
of Jude, and Simon? and are not his
sisters here with us?" they exclaimed.
How could He be great when they had
known Him since childhood, and He had
been content to stand among the village
workmen as one of themselves?

Our Lord said to them significantly:
"A prophet is not without honor, but
in his own country, and among his own
kin, and in his own house." Their
faithlessness hindered His helpfulness,
so that "He could there do no mighty
work" except the healing of a few sick
folk. Perhaps the sick were more willing
to seek His help, feeling more need of it
than the others.

We have a common saying: "Familiar-
ity breeds contempt," and another:
"Distance lends enchantment to the
view. Many, who would feel it far
beneath their dignity to choose a poor
carpenter as a friend, look up in lowly
reverence to the Carpenter of Nazareth.
We can see His glory at this distance,
but perhaps if we had lived in Palestine
when He walked visibly among men
we might have echoed Nathanael's

question: "Can there any good thing
come out of Nazareth?"

If man had planned the Incarnation
the Savior of the world would not
have spent thirty years of His short
earthly life working as a village carpenter,
but would have been offered a brilliant
career in some great city. God has
poured a flood of glorious light on things
which we call "common". Bethlehem
is great because our Lord was born
there, Capernaum because it was "His
own city" during most of His public
ministry, Jerusalem because it was
there He offered the awful sacrifice and
took upon Himself the burden of our

Did Nazareth realize its glory? Do
we realize ours? for we, too, have
Christ living in our midst. No matter
what post in His Grand Army may
have been assigned to us it is certainly
a glorious thing to be fighting always
with the Captain as our Comrade.
In these days men and women are
eager to do "great" things—this morn-
ing I heard a woman say: "I wish I
could get through my training as a nurse
this year. Then I would be off to Europe."
The man to whom she was speaking
answered: "I would be there, too,
if I had the chance." To many is given
only "the trivial round, the common

of a brokenhearted woman. Shall we
dare to think that our special duty is
of small importance, if our Living
Master has placed some dear friend of
His in our care?

Open your eyes and you will see how
full of glory the common things are.
How poor this world would be without
the every-day sunshine, the beauty of
sky and landscape, the sweet freshness
of the air, the love of relations and friends,
the pleasant work and restful sleep,
the peaceful sameness of life. God does
not think common things are of little
consequence. He cares about each spar-
row—and sparrows are very "common"
birds—He clothes in beauty each violet,
daisy and buttercup, and numbers even
the hairs of our heads. We call some
plants "weeds", but Emerson's de-
finition of a weed is, "A plant whose
virtues have not been discovered."
Perhaps we have not looked for beauty
in our own homes and our own duties.
The beauty of Christ's everyday life
was not seen by the people of Nazareth.
Even when all Palestine was ringing with
His fame, they could only see the "Car-
penter".

W. J. Dawson says that St. Paul's
word (Eph. ii. 10) which has been trans-
lated "workmanship", is really "poems."
We are not saved by our own works,
says the Apostle in this passage, but
our salvation is a free gift of God, "for
we are His poems." If that is the cor-
rect translation, it opens up our life as a
thing of beauty. The poet reveals
his inmost self in his poems, and God
wants to show His heart of love to the
world through the daily lives of His
children. The Life of Christ was the
one perfect poem which satisfies our
ideals, and St. Paul declares that to
him the common everyday business
of living "is Christ". Christ is living
in him.

Is that true of you? Is He more
than Master and Savior, even your
life itself? Is He free to work out His
will through you, or are you bent on
doing what you choose? Let us try to
answer these questions honestly, remem-
bering that our business in this world
is not to win honor and glory for our-
selves, but to let our light shine in order
that men may glorify our Father in
heaven. St. Paul told the Corinthian
church that the glory of God was shining
in the face of Jesus Christ. That glory
was a steady glow, as beautiful during
the uneventful years at Nazareth as
when the Good Physician went from
place to place healing the sick and raising
the dead.

We can see the glory of that life of
lowly commonplace work—because
Nazareth lies far away from us. Let
us pray that God may open our eyes to
see also the every-day glory of the
special work He puts into our hands.
And let us be on the watch for beauty
in the lives of people around us, even if
it be in a common workman. Those
who had the priceless privilege of knowing



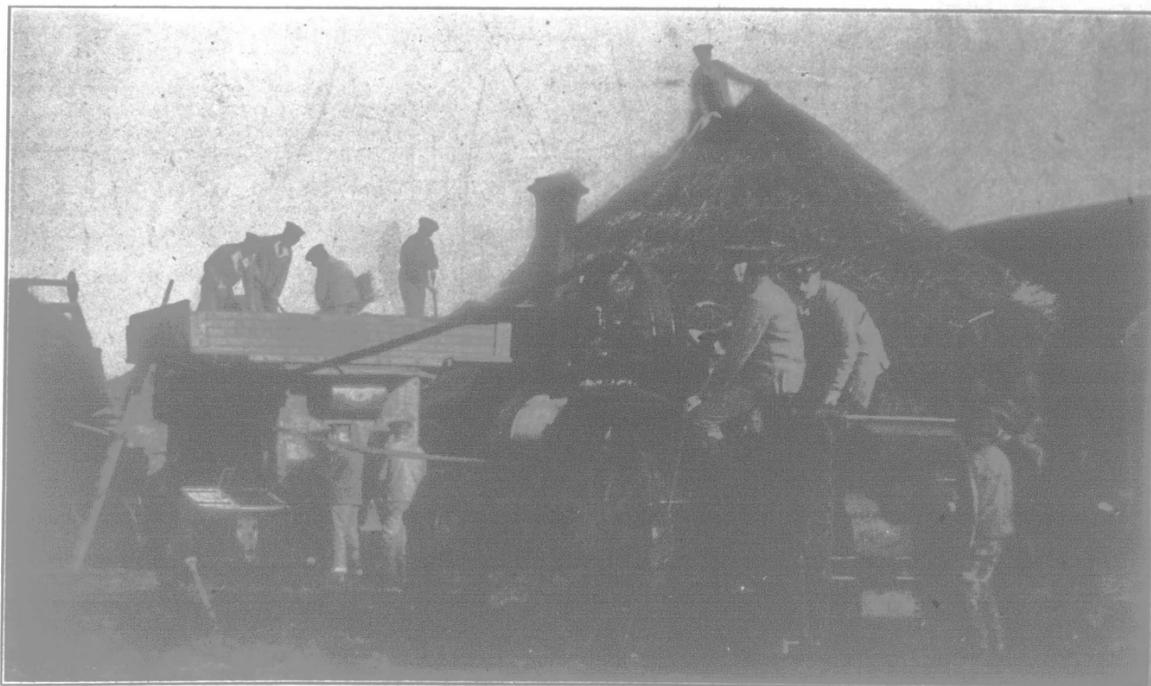
Women Who Have Taken Men's Places on a Farm at West Barsham, Walsingham, Norfolk, England.

sins. But Nazareth has a sacredness
all its own, for there that shining Life
blossomed out in wonderful beauty.
It was there that "Jesus increased in
wisdom and stature, and in favor with
God and man."

God has veiled in holy silence those
eighteen quiet years (See St. Luke ii.
42, iii. 23) but we may, in lowly reverence,
lift the veil a little and walk in spirit
with our Master through those quiet
years of common toil. How the children
of the village must have loved to gather
around Him, confiding their small troubles
and pleasures to the one Listener who
was never too busy to be really interested!
We can picture them clinging to His
hands as He walked along the village
street, listening to His grave and tender
words and drinking in the sweetness of
His smiling looks. Everyone in the
neighborhood must have felt the uplift-
ing influence of that strong, beautiful
Personality.

task"; but the Carpenter of Nazareth
has lifted all honest work out
of the region of the common-
place. No circumstances could be
more ordinary and yet no life more
splendid than His. Then we can re-
joice at our high calling as we march
steadily on, looking up to Him who is
our Leader as well as our Savior.

If we dare to say that a man is "worth"
a great deal, just because he can spend
millions of dollars, how much do we think
Jesus of Nazareth was "worth"? Think
of that beautiful object lesson given to
the world, when the King of kings girded
Himself with a towel and stooped to
wash the feet of astonished fishermen.
If we are given the grand opportunity
of serving God and our fellows, we need
not lament that life is commonplace.
When St. John stood beside his dying
Master, anxious to do some great service
to prove his love and devotion, the
sacred task given to him was the care



Tommy Takes Charge of the Threshing.

Wounded British Tommies helping a farmer in the Western Europe War Zone. Photo Underwood & Underwood.

intimately the Man, whose Name is to-day infinitely above all other names missed their opportunity and knew Him only as "The Carpenter." Perhaps we are no wiser than they. It is easy to say:

"If I could hold within my hand
The hammer Jesus swung,
Not all the gold in all the land,
Nor jewels countless as the sand,
All in the balance flung,
Could weigh the value of that thing
Round which His fingers once did cling.
If I could have the table He
Once made in Nazareth,
Not all the pearls in all the sea,
Nor crowns of kings, or kings to be
As long as men have breath,
Could buy that thing of wood He made,
The Lord of Lords who learned a trade."

Yet that treasure of iron or wood is as nothing compared with the value of one of His children. Are we too blind to see the glory of a man for whom the King of heaven was willing to die? Dare we despise one of the least of His little ones? Then He says: "Ye have done it unto Me." May the Divine Lover of souls forgive us, and fill us with love for the least of His brethren and sisters who are "here with us" still!

DORA FARNCOMB.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price fifteen cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

When ordering, please use this form:—
Send the following pattern to:

Name.....
Post Office.....
Country.....
Province.....
Number of Pattern.....
Age (if child or misses' pattern).....
Measurement—Waist..... Bust.....
Date of issue in which pattern appeared.....

Owing to the fact that custom duties on fashion cuts have been increased we are obliged to raise the price of patterns to 15 cents per number.



8575—34 to 42 bust.



8900
8943
8900—Blouse, 34 to 42 bust.



8524—Small, 34 to 36 bust; medium, 38 to 40 bust; Large, 42 to 44.



8622—34 to 42 bust.
Bolero Costume with Three-Piece Skirt



8773—6 to 10 years.



8470—34 to 44 bust.



8715A Sports Skirt for Misses and Small Women, 16 and 18 years.

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.]

The Fireless Cooker and Its Uses.

A bulletin recently issued from Cornell University describes in detail the modern fireless cooker, both the home-made and patented varieties.

As understood by those who use it, the principle of the cooker is merely the conservation of heat so that none of it can pass off from the dish that is being cooked to the surrounding atmosphere. The food must first be thoroughly heated over a range, gas stove or oil stove, then it is placed at once in the cooker and left until done. The best commercial cookers are provided with a soapstone radiator, which is also heated and placed in a compartment in the cooker. This makes it possible to cook pies, etc., and roast meat. The kind that merely conserves the heat is only good for things that are not spoiled—or are the better for—long cooking, e. g. baked beans, boiled ham and beef, stews of all kinds, scalloped potatoes, tapioca pudding, custards, stewed fruit, etc.

Needless to say, a fireless cooker means a great saving in fuel. It also prevents heat in the kitchen, to a great extent, during warm weather, and, moreover, is a great time-saver. Ordinarily the cook has to remain constantly beside the range, gas stove, electric stove or oil stove, to see that scorching of the food does not occur. With the fireless cooker this trouble cannot exist. The cook can start her dinner, put it in place, then go off to make beds, sweep, or whatever she chooses, for hours at a stretch.

The cost of a home-made cooker, notes the bulletin, may be from \$1.50 to \$8.00 or more, depending on the materials used—aluminum cooking vessels, etc. Unless for the cheapest variety, it is probably advisable not to try to make one at home; the commercial cookers are, as a rule, much better than the best

made at home of truly mechanical an "insulation" which has provided with conserves the sary is to heat then turn off.

The most any woman constructed box or trunk, iron ash-can ever is used tightly. The food may be tin with a tipping material dust, excelsior straw, hay, v



Diagram of

A, outer bucket
D, food container

powdered ash is used in putting in the be taken to entering the

After choosing with asbestos will do, but the cover in the inside of the sheet asbestos of the larger whatever no used, place and pack all half an inch of Make a collar (zinc is best, to cover the top. Finally make or muslin to be cooked

The cooker Bring the material to a boil on place at once the cooker, cover the cushion outer lid tightly box to see how until the need

The interior should be kept inner vessel should after each unpleasant odor taste from the for containing in this compartment those of tin will do.

In using a always be suitable for cooking, the of meat, for and gentle available. With taining soapst dishes is, of course

Not only is for cooking: 1. tures may be out melting, does not require instance—may and salt and P The insulation when a hot vessel is also effectively ing the heat kitchen, out.

Receipts for

Boiled Beans under part of 3 lbs., boil it for to the cooker, cook 3 hours

made at home by any except someone of truly mechanical skill. There is also an "insulated oven" manufactured, which has top burners, and is provided with an asbestos lining which conserves the heat. All that is necessary is to heat it up with the food in it, then turn off the gas or oil flame.

The most easily made cooker, which any woman can make herself, may be constructed from any close wooden box or trunk, candy bucket or galvanized iron ash-can that may be handy. Whatever is used, the lid should close very tightly. The inside container for the food may be any bucket of granite or tin with a tight cover, while the insulating material or packing may be of sawdust, excelsior, bits of crumpled paper, straw, hay, wool, cork, cotton batting or

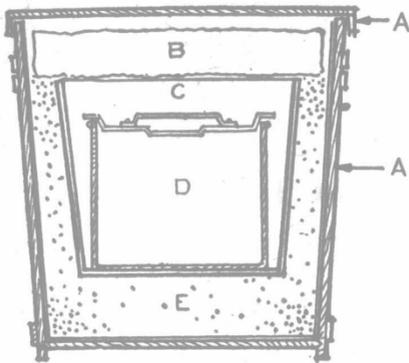


Diagram of a Home-made Fireless Cooker.

A, outer bucket; B, cushion; C, inner bucket; D, food container; E, packing material.

powdered asbestos. When the asbestos is used gloves should be worn when putting in the packing, and care should be taken to prevent the material from entering the mouth and nose.

After choosing your box line it well with asbestos sheeting (layers of paper will do, but are not so good), and line the cover in the same way. Next cover the inside bucket or kettle all over with the sheet asbestos. Pack into the bottom of the larger box at least 3 inches of whatever non-conducting material is used, place the inner bucket on this and pack all about very tightly to within half an inch of the top of the inner bucket. Make a collar of zinc or sheet asbestos (zinc is best, because it can be washed) to cover the top of the insulating material. Finally make a cushion of white cotton or muslin to put on top after the material to be cooked is put in.

The cooker is now ready for use. Bring the material that is to be cooked to a boil on the range or oil-stove and place at once (or after a short boiling) in the cooker, covering tightly and placing the cushion on top. Close down the outer lid tightly, and do not open the box to see how things are getting along until the necessary time has elapsed.

The interior of the fireless cooker should be kept absolutely clean, and the inner vessel should be sunned, if possible, after each using. This will prevent unpleasant odors and an unpleasant taste from the odors. Aluminum vessels for containing the food and placing in this compartment are nicer than those of tin or granite, but the latter will do.

In using a fireless cooker it should always be remembered that it is only suitable for foods that will stand slow cooking, the tougher and cheaper cuts of meat, for instance, which need long and gentle cooking to make them palatable. With a commercial cooker containing soapstone radiators the range of dishes is, of course, greatly increased.

Not only is the fireless cooker useful for cooking: by means of it frozen mixtures may be kept for several hours without melting, or a frozen mixture that does not require stirring—*parfait*, for instance—may be surrounded with ice and salt and put in the cooker to freeze. The insulation which keeps the heat in, when a hot vessel is placed in the cooker is also effective, as may be seen, in keeping the heat of the sun, or a heated kitchen, out.

Receipts for the Fireless Cooker.

Boiled Beef.—Take a piece of the under part of the round of beef, weighing 3 lbs., boil it for 15 minutes then transfer to the cooker, with one hot radiator, and cook 3 hours.—A commercial cooker

is used. Tough beef flank may be done in the same way in 3 1/4 hours.

Beef Casserole.—Take 2 lbs. tough beef from the neck, 3 tablespoons fat, 2 carrots cut in bits, 1 sliced onion, 2 minced green peppers if you can get them, 1 small turnip cut fine, 1 cupful canned tomato, salt and pepper. Sear the meat in the fat, add the other ingredients, with a little boiling water if needed. Boil 5 minutes then leave in the cooker for 4 hours.

Dried Prunes.—Wash the prunes and soak over night in twice their quantity of cold water. In the morning boil in the same water for 5 minutes, then put in cooker and leave 4 hours. Add sugar when done. Apples and rhubarb may be cooked in the same way but should be first boiled for 3 minutes in a thin syrup.

Steamed Pudding.—1 cup sweet milk, 1 cup molasses, 1/2 cup butter, 3 1/2 cups flour, 1 teaspoon soda (level), 1/2 cup raisins or currants, 1/2 teaspoon cinnamon, 1/4 teaspoon ginger, 1/4 teaspoon salt. Stir the soda into the molasses, add the milk and melted butter, then flour sifted with spices and salt, and lastly the fruit dredged with some of the flour. Put the mixture into a buttered mould, place in a kettle of boiling water and boil for 30 minutes, then put the kettle in the cooker and leave for 5 hours.

Tapioca Pudding.—1/2 cup pearl tapioca, 1 quart water, 6 apples sliced, 1/4 cup sugar, 1/2 teaspoon salt, 2 tablespoons butter. Soak the tapioca for 1 hour, then add the other ingredients and bring to a boil. Place in the cooker and leave for 1 hour. Serve cold with cream. If the pudding is to be served warm use only 3 cups water.

"Grandma's" Garden.

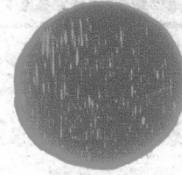
Dear Junia.—Speaking of gardens, what memories it brings up of the good old days when the children were at home? I always loved a garden, and still have my flowers and vegetables. I think children should be encouraged to take an interest in the garden. I always allowed each one a small plot to do with as they pleased and it was interesting to note the difference in each. The little blue-eyed maiden always planted flowers, sweet peas, gladiolus, asters, Canterbury bells, peonies, bleeding heart, and others too numerous to mention, but the joy of her heart was the nasturtiums, and such grand large ones she had. In memory I can see her sitting among the flowers picking bouquets for the dining-room or parlor, her golden curls blended with the yellow blossoms, a lovely picture. Her brother, the dark-eyed dreamer, had different tastes and planted vegetables, berries and flowers all together, and his flowers were never plucked. This garden was near an old milkhouse with a very low roof which was a favorite place for the old cat and her kittens to sun themselves. One day the young gardener came in and said: "Mamma, I saw a million cats on the roof." "Oh no," I said, "you didn't see that many." "Well," said he, "there must have been a hundred." "No," I said, "there wasn't that many either." He thought for a while and then he said, "Well, I know I saw our old cat and another one." Another day we heard what sounded like a blood-curdling war-whoop in the direction of the young lad's garden and on going out to see what was the matter what should we see but a young Indian with moccasined feet, leggings fringed at the back, a hideous head-dress of turkey feathers on his head and a large bow and arrow in his hands making great leaps and bounds through the pumpkin vines after an offending hen that had dared to scratch for worms under the spreading blackberry bush. For had he not taken great pains to bury the ends of the bushes to grow new ones and woe to the cat or hen that entered that sacred spot. If a caterpillar was found there it was promptly imprisoned in a cardboard box with only a leaf for company there to make its cocoon.

The little gardens are now overrun with grass, but the bleeding-heart and peony still survive in one and the blackberry bush and the orange lilies still remind me that there once was a little garden by the old milk-house.

Huron Co., Ont. GRANDMA.

About Tea—Cake Recipe.

Dear Junia.—Here is a new member, just looking for advice, like so many others.



There probably isn't a kitchen in the land that's quite so clean as McCormick's new model bakery. Everything about the "house"—ingredients, pans, ovens, employees—are so scrupulously clean that, as the saying is, one could almost eat off the floor.

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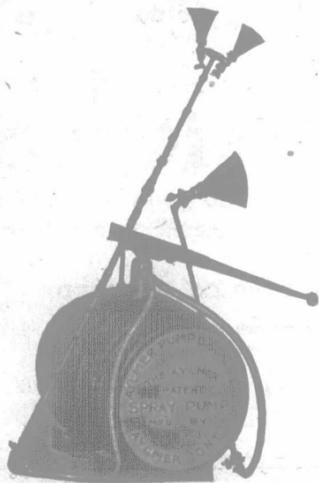
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For Lined Bamboo Extension Rod, in place of Iron Extension Rod add..... 2.00
With Barrel..... 4.00
SPRAYER OUTFIT F—Being Outfit A, Two Lines of Hose, Ten Feet each, with couplings Attached, Four Friend Nozzles, Two Brass Ys, Two Brass Stopcocks, and Two Eight-Foot Iron Extension Rods, without Barrel. Price.....\$24.00
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With Bamboo Extension Rods in place of Eight-Foot Iron. Price.....\$28.00
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With Two Brass Triple Heads, Six Nozzles, instead of as in Outfit F—Add to list..\$2.50
The Aylmer makes child's play of Spray Day.

You take no chances—you get results. It is the sprayer you will buy sometime. Why not now?

I would like to know, the "pro's and con's"—of Green Tea.—Why has it, a bitter taste if not allowed to draw?—Hope some one will write on it, as green tea is used in some homes.—I will send a tested cake recipe:—

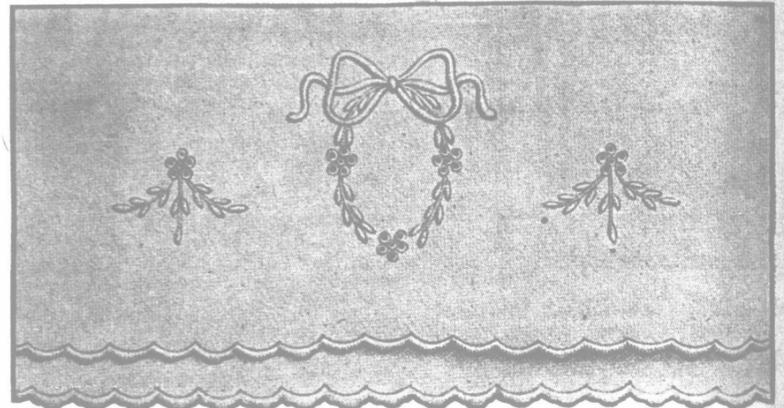
"Canadian War Cake".—One lb. raisins, 2 cups brown sugar, 1 tablespoon butter, 1 tablespoon lard, 1 teaspoon cinnamon, 1 teaspoon ground cloves, 2 cups cold water. Boil all five minutes. When cold add three cups flour, 1 teaspoon soda dissolved in 2 teaspoons hot water. Mix well, bake in a deep dish one hour, in a moderate oven.

"Tested Gingerbread".—Three cups sifted flour, 1 cup sour milk, 1 cup brown sugar rolled, 1 cup baking molasses, $\frac{3}{8}$ cup butter, 2 eggs not beaten, 1 teaspoon soda, 2 teaspoons ginger, 1 teaspoon cinnamon, 1 teaspoon cloves, $\frac{1}{4}$ teaspoon nutmeg. Put sugar, molasses, butter and spices in mixing bowl; set to get quite warm. Sift flour, then

and for each pound add a pound of sugar. Let cook very slowly until it thickens slightly on a cold dish. It may take 6 hours. Put in jelly glasses and when cold cover with melted paraffin.

Orange Marmalade.—Prepare as above using 1 dozen oranges to 4 lemons. For bitter orange marmalade soak the seeds in cold water over night and strain this water into the prepared fruit before cooking it. Cook slowly.

Jellied Veal.—Take a shank of veal and saw it across the bone in two or three places. Put it on to stew slowly with water enough to cover well. When it comes to a boil push to the back and let just simmer for 4 hours. Take the veal out, cut the meat from the bones, and put the bones back in the stock to boil longer. Meanwhile cut the meat in very small bits, or put it through a chopper. Take up the bones, strain the stock, then add to it the cut-up meat, putting all in a clean granite



Towel Embroidery.

Such a pattern as this may be easily drawn with a lead pencil.

measure. Rub baking pan well with butter. Beat all together briskly; bake in slow oven about 40 minutes.
Que. "PONTIAC."

If green tea is not allowed to stew, but is merely steeped in a warm pot for 3 minutes it should have no flavor foreign to it. Stewing any tea, or leaving the boiling water on it too long causes an injurious ingredient "tannin" to be drawn from it into the water.

kettle. Season to taste, and let boil down, uncovered, until there is just enough stock to cover the meat. Cut some boiled ham or hard-boiled egg in slices and place on the bottom of a mould, then pour the veal over and set in a cool place to stiffen.

The Scrap Bag.

Helps in Cleaning.

A medium-sized paint brush will be found very useful for brushing out cracks, around window-panes, etc. An ordinary blackboard eraser is very good in cleaning the corners of hardwood floors which the weighted brush fails to reach.

Garden Clogs.

A gardener says that wooden-soled clogs, when they can be got, are ideal for wearing in the garden on damp days. They have a sole of light wood about 2 inches thick, and uppers of stout leather.

Finishing Matting.

Finish the ends of length of matting by raveling out about 2½ inches from each end tying the strings into a fringe. The fringe can then be turned under and with it a bit of the matting if so desired.

Papering.

If you wish to paper plastered walls that have been painted wash them first with the following solution: $\frac{1}{2}$ lb. washing soda dissolved in 1 gallon water. After washing apply the following sizing with a brush: 1 lb. ground glue dissolved in a pail of hot water. Apply warm, let dry, then paper as usual.

A Milk Paint.

Paint made as follows is said to be very durable for out-buildings. Make just as much at a time as can be used in one day. Stir into 1 gallon of milk 3 lbs. Portland cement,—and add paint powder to make whatever color you desire. Stir frequently while applying.

A Durable Whitewash.

The following whitewash is also said to be very durable. Slake $\frac{1}{2}$ bushel lime with boiling water, covering the vessel during the process to keep in the steam. Strain the liquid through a fine sieve and add 8 qts. salt previously dissolved in warm water, 2½ lbs ground

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ound of sugar. il it thickens t may take 6 es and when affin. pare as above emons. For oak the seeds nd strain this fruit before

rice boiled to a thin paste and stirred in boiling hot, 1/2 lb. powdered Spanish whiting, and 1 lb. clean glue dissolved in a little water. Put the whole mixture in a kettle set in a larger one filled with water, and hang over a slow fire. Add 5 gals. hot water, stir well, and let stand a few days covered from the dust. When it is to be applied it should be reheated and put on hot. This wash is said to be as good as oil paint and much cheaper. Coloring matter, with the exception of green, may be added.

Our Serial Story

The Road of Living Men.

BY WILL LEVINGTON COMFORT.

Author of "Down Among Men," "Fate Knocks at the Door," "Red Fleece," "Routledge Rides Alone," "Midstream," "The Child and the Country," etc.

Serial Rights Secured.

X.

And now we returned to the path and ascended cautiously to the Gate. It was closed, of course, but apparently without the keeper. We knocked and called softly, to no avail. The Chinese party had spoiled our chance of entrance. It would not do to make an outcry. With each moment it became less advisable in my mind to implicate Yuan and his people in our plight, to the extent of rousing his household. Moreover, natives might be loitering outside the wall. We dared not remain near the Gate, lest the Chinese return; and yet if Yuan came and failed to find us within, we must make our presence known. So the thoughts formed in a rush. I led the way for a short distance around the wall.

"I'm so sorry things are breaking like this. Yuan couldn't have foreseen it—" "Please don't say it that way," she whispered. "We are companions. We shall do the best that we know and can. Please don't think of me—as one whose feelings must be spared—"

My foot butted a low mound close to the wall. On the rise, I could touch the wall's coping and could feel the jagged pieces of broken glass set in the ancient plaster on top. I slipped off my coat, a tough garment of Bedford cord, and saddled the wall with it in double thickness; then, back against the masonry, I wove my fingers for her step. Her hand brushed down my arm. She caught the intent.

"Must I?" "Yes. It will be safer over there—until Yuan comes."

"My shoes are so muddy—" "Please. What a trifle. This can be managed, and there is plenty of time. Be careful to touch the wall only where the coat is."

And so I held in my hands the slender foot in its light wet boot, her hands upon my head—and up she went, to my shoulder, then to the coping with the coat beneath her. . . . I heard her laughing softly in the darkness. The whisper reached me:

"It wouldn't have been hard—only for the dress. But—now, how can you make it?"

She was edging over to spare as much of the coat for me as possible.

"I need only a grip for my hands." Mary Romany looking down—there was lift just in that. Upon most of the actions a man performs worthily, a woman is looking down. It had been a rather primitive twenty-four hours for me. I was cut, strained about the chest—but over I went, my head rolling across her lap, as I dropped. Then Mary Romany let herself down upon the coat, I guiding her foot to my shoulder, then full she came, into my arms and to the garden-earth. She pressed my hand in a quick congratulatory way. We had conquered the Wall without being discovered by the least of the Kang Su servants.

That instant (possibly it was a sharp gust of rose-fragrance that lifted me), I told Mary Romany I loved her. I recall the diminutive sentence as quite of miraculous origin—no rococo whatsoever about its arriving.

It was I who broke the silence. "I am more awed than you can possibly be, Mary Romany," said I. "It must have been the roses—"

She laughed. "I can't get Hsi tin lin out of mind—nor the red in the sky—"

She breathed deeply and long, as if to

To Those Who Own Old Style Separators

There has been considerable progress made in the design and construction of cream separators in the past five years. Yes, even in the last eighteen months—for the latest Model Standard has some new features not possessed by other machines. It will pay owners of old style separators to seriously consider the advantages of the newer machines. Your old machine may last for a few more years, but the



will skim so much cleaner, run so much lighter, and save so much more time, that it is poor economy to keep the old separator.

Send a sample of your skimmed milk to one of the Government Dairy Schools for a Babcock Test and you will probably find that your old machine loses about one pound of butter fat in every one thousand pounds of milk skimmed.

Look up Government Dairy School Tests and you will find that the Standard loses but one-tenth of a pound of butter fat in one thousand pounds of milk skimmed. Figure out for yourself how much you are losing by keeping your old machine.

The Real Thing

Your old separator no doubt runs pretty hard. The latest Model Standard will be a revelation to you in easy running. And its automatic oiling system is a real one—not a make believe. It requires a fresh supply of oil only once every two to four months.

The Standard skims rapidly, is easily cleaned, the bowl being of the wide-open type, and the discs all being washed in one operation.

One of the biggest features of the new Model Standard is the interchangeable capacity. The size of the Standard can now be changed from smaller to larger, or vice-versa, by merely changing the size of the bowls and fittings. It is not necessary to buy an entirely new machine when your herd grows larger, as is necessary with an ordinary machine.



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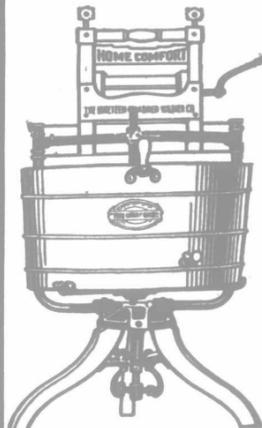


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YOUR live stock will be free from annoyance by insects, flies, lice and vermin if you spray them lightly with **Creonoid**, the peerless lice destroyer and cow spray. Not a deodorant, but a destroyer. It helps to make healthy, happy horses, contented cows and placid-minded pigs. You know that vermin-infested live stock can't be profitable. Give them a chance. Use Creonoid in the barn, the pig-sty, the poultry house. You'll see a difference. Sold in 1, 5 and 10 gallon containers and in half and full barrels.



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make part of her, the beauty of the roses in the rain.

"There's a little temple around here somewhere—dug from the side of a hill," I whispered. "Yuan showed me one day—yesterday. . . . But you knew. You must have known. It has been so, since Oporto—"

"Is the door open?" she asked. "Perhaps if we grope around, we can find it—"

"A little place of worship carved out of a verdured hill. . . . Yes, here it is—"

We pushed open the creaking wooden door and sat down out of the shower. After a long time Mary Romany drew my head to her shoulder.

"We've been good companions. Did you know a woman loves that—danger and all? . . . How terribly tired you are."

I rested—and fell into the queerest mood of looking backward. A clear smooth-running panorama unfolded, containing a salient souvenir from every life-crossing, some figment from every high moment, a bit of atmosphere from every stirring picture. It was a passion lifted above the senses that night. The beat of her heart was like a spirit whispering all that I should sometime know. . . . There was no effort at thinking, no self-consciousness—just a true relation of things visioned in a rare brief time of perfect rapport. My lips formed the words:

"I seem to have come home—"

There would have been no significance at all in the utterance—nothing out of the commonplace—had not Mary Romany shared the strange serene transparency of mind.

"How dear for a man to say, and for a woman to hear," she whispered. . . . It did not come again, that open door into the past, but the clear harmony of it lived in our minds for many moments. At last I heard from without the Wall, the low voices of natives. They passed by from the Gate around the Wall; and then we heard them coming back—a sickening discord of intonations until the words reached me:

By the rivers of Babylon— We had made no arrangement, but the signal from Yuan in the party was instant clear. I called to him from the low door of the temple. A moment afterward he appeared in the gardens alone.

"I found you had not come through the Gate—and thought you must be hiding somewhere outside. I knew you wouldn't answer until you were sure of me. A bad batch of things—such a shabby way to treat you. Please forgive your friend. I don't see yet—why you were not admitted."

I explained about the party from the river. He gripped my hand thankfully. "It is good and merciful for me—that you two proved so wise as to avoid those river-men. I must have been called very strongly over the river. . . . Yes, they have had a hard time. I can't do exactly as I would. The provinces are aroused against the foreigners, and I am Chinese. Mine is a secret part—even against my own servants. . . . Come with me now, I am going to dress you over, and get you both started down the river before daylight. It's just two now—"

It was hard to believe that it was not later. Yet the dark immensity of that night (which had held a rapture, too) had other unfoldings. . . . We crossed the gardens to the broad low house—I to the room of the night before, in which I had plotted the solitary journey up the river-road, and Mary Romany to the room next, which Yuan had occupied. I crowded questions upon him as to what had taken place across the river.

"One of the Germans was murdered on the Bluffs last evening—almost in front of the Rest House. One boat was all the Germans had. They offered to take two of the women from the Mission. There was some trouble as to who should go—but it was settled. Miss Forbes is still at the Mission, a Miss Austin, the Benson man, and Huntoon, our friend Huntoon. He went over there at once when the trouble began. It is said that the Chinese tried to keep him from reaching there—but he evaded their fire and knives, and reached the Mission. . . . The rest of the Germans, and your lady's father, are at the Rest House now."

Yuan drew closer to add: "My dear friend, if I shouldn't get a chance to impress it upon you again, remember this: You must kill if necessary. I didn't understand suffi-

ciently when I left you below at the landing. I shall get you plenty of guns when you start down the river. This is war. Peking and Tien tsin, the legations and embassies—they all knew it days ago. If Chinese come upon you—you must kill—and kill first. That's your chance. They haven't quite the real spirit of it in Liu chuan yet—or they wouldn't have stopped burning with the schoolhouse, nor killing—with one German to-night. I apprehended real danger in getting you away before dawn. We must be swift and masterful. Another night and I could not. . . . There are American and British gun-boats at Hankow. The foreigners across the river, and you and Miss Romany, will not be safe until our river-boats are alongside.

"You two will be Chinese in an hour—to all appearance—and together in the smallest of the boats with two of my oldest servants. I'll join the Mission party. Your lady's father and the three remaining Germans will make up the third boat. . . . You white people refuse to be afraid. It will cost you many lives. Especially fearless is this big angry man—Mr. Romany. He wanted to come across here to get his daughter; and says he has not yet decided to leave Santell up the river. I told him I had left a servant there. We may have trouble with him. You two must not see him before the start. He might detain you, or want to take his daughter back with him for Santell. I'm not particularly coherent, but there's considerable to think about—"

"I'll do exactly as you say. I can't help wondering how you managed to get back here so soon."

"I couldn't rest, having left you at the landing. It was different, more serious than I thought. Then since the rain at midnight, the Chinese have been quiet. All was well at the Mission. I talked with the people there for a few minutes. Huntoon has a bullet through the arm, but is cheerful."

I was thinking about Yuan's repeated admonition to kill. "But these are your people—"

"I know—and they've got their side. I'd be neutral at best if it were not for you—and those across. You are my people, too—closer to me than the natives—except as a whole. You would see—if it were my own life—how dear is China to me. I impressed upon you this need, because you are slow to fear. You have traveled here and in Tibet alone. Believe me, it is all different to-night—there is a lust you have never known nor seen before. This is the yellow foam. It isn't afraid of guns. The Fist of Righteous Harmony is convinced of its righteousness."

As he spoke, Yuan had been gathering native clothing for me and preparing a paste for our faces. A maid servant was helping in the next room. We were disguised with a perfection of Oriental art which passes Western understanding. Mary Romany came forth laughing. Slight and lithe, and like a boy, she seemed in the native garments. In her eyes was that soft humid light that made a child and worshipper of me. Though she laughed and whispered—it was all unearthly—as if we were in a deep dream together. Santell seemed far back—waving from the rim of another world; and her father, a center of dynamics from whose zone of attraction we were remotely passed.

"It won't wash off," Yuan was saying. "You will be Chinese until we reach Hankow. Only do not speak. I wish they might be as well concealed from China—those across the river."

"You look like brothers," Mary Romany said, to Yuan and me, standing together.

He gave her two light pistols to conceal in her garments. I spoke of my guns and other portable possessions across the river at the Rest House.

A quick look from Yuan reminded me that he did not want Nicholas Romany and his daughter to meet, before the start down the river. . . . The Oriental mind conceived this reply further to cover the situation:

"You might go over with me, and leave Miss Romany here. You see, the disguises complicate. Explanations might be required for the Germans—"

She did not speak. The wall to the garden had not dismayed her, nor the native river-men who forced us into hiding, nor accompanying me from Hsi tin lin—but her sudden sharp dread at being left alone in Yuan's house, I

sensed as keenly as I could. Also I knew to keep you apart from me. "I'll not said I, and with a smile her breath breathing. We left few minutes decided to the foot of a but within boats ready party. Our provisioned Yuan's boat. To one of the extended in tence of wh The boat was moment the "Will you are ready?" "You'll be landing is b ed. "I'll ci the boat—if . . . We The opposite The misty to the brea was dank There was running cur nor from wheedling r in their p strain of the

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King Alfo Bourbon on

sensed as keenly as if it had been my own. Also I knew that Yuan's intention was to keep us together, and at the same time, apart from the Rest House.

"I'll not mention possessions again," said I, and he offered a pair of pistols with a smile. Mary Romany caught her breath. I think she had stopped breathing.

We left the house for the landing a few minutes past three. Yuan had decided to leave us across the river at the foot of a street in the native quarter, but within hailing distance from the boats ready to convey the rest of the party. Our junk meanwhile had been provisioned for several days. Three of Yuan's boatmen were taken for a crew. To one of the Chinese, my friend gave extended instructions, a word or sentence of which I caught now and then. The boat was to be in my charge, at the moment the real flight began.

"Will you signal us when your boats are ready?" I asked.

"You'll hear us putting off. Your landing is but a little below," he answered. "I'll circle a lantern in the stem of the boat—if it is dark. You'll know."

We were crossing the river. The opposite wall of the gorge was black. The misty rain quickened our nostrils to the breath of the sullen stream. It was dank and ancient like a cistern. There was no sound from the deep running current, from the city across—nor from the dying night—only the wheedling roll of the big sculling oars in their polished thole-pins—and the strain of the poling against the stream.

To be continued.

The Windrow

German merchant ships to the value of \$100,000,000, which would be seized in case of rupture with the United States, are interned in American waters.

Dr. Albert H. Burr of Chicago, in a paper read recently before the Medical Society of that city, states that women live longer than men, on the average, because men are the tobacco users.

So great is the demand for yarn that feathers are now being woven in with the fibre of both woollen and cotton yarns.

One French woman out of every three is now in mourning.

Thirty of the armoured cars at the front were presented to the British by the T. Eaton Co., Toronto.

In these days of high-priced meat it is interesting to read of the abundance of game when America was younger. All the ballads he could find relating to America between the years 1563 and 1759 have been collected and published by Mr. C. H. Firth, and among them is one which seems to show that the cost of living could not have been high in New England at the time when it was written:

There fights of Fowl do cloud the light,
Great Turkeys of sixty pounds in weight,
As big as Estriges; there Geese
Are sold with thanks for pence a piece;
Of Duck and Mallard, Widgeon, Teale,
Twenty for two-pence make a meale;
Yea, anda Church unspotted, pure,
Within whose bosome all are sure.

Auguste Rodin, the famous French sculptor, has given to the French Government his entire collection of art works and his mansion in Paris to be made into a public museum for their exhibition.

The Germans are said to be making nitrates from the air, cotton from wood, and rubber from potatoes.

There exists an agreement among the Allies that none of them shall negotiate terms of peace without the approval of all the others. This pact has been signed by Great Britain, France, Italy, Belgium, Japan and Russia, and, in addition, when the war is over the claims of Serbia, Montenegro, Portugal, Greece, Persia and Albania will also have to be considered. Evidently to stop the war will be as difficult as to settle the complications that must arise from it.

King Alfonso of Spain is a French Bourbon on his father's side, an Austrian

Production and Thrift

"To win the war with the decisiveness which will ensure lasting peace, the Empire will require to put forth its full collective power in men and in money. From this viewpoint it is our true policy to augment our financial strength by multiplying our productive exertions and by exercising rigid economy, which reduces to the minimum all expenditures upon luxuries and non-essentials. Only in this way shall we be able to make good the loss caused by the withdrawal of so many of our workers from industrial activities, repair the wastage of the war, and find the funds for its continuance. It cannot be too frequently or too earnestly impressed upon our people that the heaviest burdens of the conflict still lie before us, and that industry and thrift are, for those who remain at home, supreme patriotic duties upon whose faithful fulfilment our success, and consequently our national safety, may ultimately depend."—SIR THOMAS WHITE, Minister of Finance.

**PRODUCE MORE, SAVE MORE.
MAKE LABOUR EFFICIENT.
SAVE MATERIALS FROM WASTE.
SPEND MONEY WISELY.**

LET US PRODUCE AND SAVE—

The war is now turning on a contest of all forces and resources—men, munitions, food, money. The call to all is to produce more and more. It may be necessary to work harder. The place of those who enlist must be taken by those at home, men and women, old and young. The more we produce the more we can save. Produce more on the farms and in the gardens. Save more and help to win the war.

LET US NOT WASTE OUR LABOUR—

In this war-time all labour should be directly productive or should be assisting in production. Make it as efficient as possible. If your labour is on something that can be postponed, put it off till after the war and make your labour tell now. Making war is the first business of all Canadians. Efficiency in labour is as important as efficiency in fighting.

LET US NOT WASTE MATERIALS—

Begin at home. The larger portion of salaries and wages is spent on the home—food, fuel, light, clothing. Are any of these things being wasted? \$20.00 a year saved from waste in every home in Canada will more than pay the interest on a war debt of \$500,000,000.

LET US SPEND OUR MONEY WISELY—

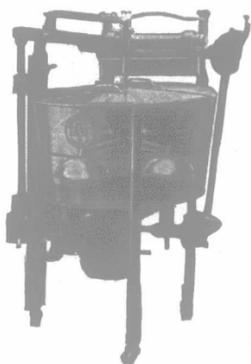
Are you spending your money to the best advantage? What do you think of extravagance in war time? Tens of thousands of Canadians are daily risking their lives for us at home. Is it not our duty to be careful and economical? Canadian dollars are an important part of the war equipment. Make them tell. Have a War Savings Account. Buy a War Bond.

THE GOVERNMENT OF CANADA

3

THE DEPARTMENT OF AGRICULTURE

THE DEPARTMENT OF FINANCE



Ask the Man of the House

to do the washing—do it over the rubboard, or with the clumsy, watersoaked wooden washing machine, if he expects you or your help to do it with such crude implements; not for his regular job, but just long enough to know how hard it is, and how destructive to fabric, to do washing without the best equipment—and how much you need an

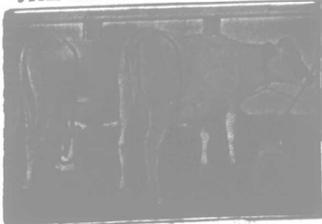
EASY VACUUM WASHER

to despatch the work and save your energy. There is that gasoline engine doing all kinds of work for the man, but leaving that dreaded washing for the woman to waste her strength on. Why not order the one thing lacking—the "EASY" Vacuum Washer with countershaft attachment, if you have the engine, or the "EASY" Model "B" hand power, if you have no mechanical or electrical power. Why not have a washer made on the right principle—Air pressure and vacuum suction that will force such torrents of water through the clothes that they can't help coming clean; and do it without the slightest injury to the most delicate fabric?

Instead of these unsanitary, suds soaked, wooden devices you have been using, why not have the real washer, made of indestructible, rust-proof metal, one that is always clean and sanitary, and built for a lifetime of service? Write

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Storage Office: Room 64, 154 W. Sandwith St. Established 1866



Tom—You're not turning as fast as Dad does, Mary.
Mary—No Tom, but we'll get all the cream any way with this lovely new machine. Dad says

"It Skims Clean at Any Speed"

That's what this marvelous new invention actually does.

A fixed-feed separator may skim clean if in perfect order and turned at just the *right speed*. But every member of the family turns the crank at a *different rate*; no one can maintain an even speed *all the time*—it isn't human nature. Every old type separator has an *unchanging inflow* of milk. That's why it loses cream when not turned at exactly the right speed.

THE NEW SHARPLES SUCTION-FEED

Separator gets all the cream because it automatically regulates the inflow exactly in proportion to the separating force—always just right for perfect skimming.

The Suction-feed Separator delivers smooth cream of *even thickness* that churns out more butter of choicest quality. If you sell cream you can *guarantee uniform density*.

You can increase the capacity of the Suction-feed by simply turning faster, and get through quicker if in a hurry. The new Sharples is the only Separator that can be hastened. You can easily pour milk from a forty-quart can into the low supply can. It's the largest found on any separator—and it's only knee-high.

The women folks prefer the Sharples because the simple tubular bowl is so easily cleaned. Has only three pieces—no disks to wash or to get mixed up. The tubular shape gives double skimming force.

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The Sharples Separator Co.
Toronto Canada

Hapsburg on his mother's and is himself an Austrian Archduke. His wife is an English Princess, a granddaughter of Queen Victoria. Whatever his sympathies in the war have been, it has

been his policy to maintain a strict neutrality.

There is no doubt at all that both for the grand lines of its own movement

and for its significance in relation to the future character and result of the war, the battle of Verdun will be recorded as one of the greater dramas of all time. On the one side, when we take the weight of metal employed, together with the mass and fury of men, the fight far surpasses everything that has been seen before. Mountains of ammunition, shells that had been accumulating in millions, have been shot away. No previous experience or imagination had contemplated for a moment such a sustained tempest of steel and chemicals as has raged over the heights of the Meuse.—London "Observer."

Shakespeare was buried in a tomb before the altar in the church at Stratford-on-Avon on April 23rd. just three hundred years ago. The tomb was made 17 feet deep and has never been opened.

Of late years during the week preceding Easter a disgusting sight has been seen in the windows of many stores—the stuffed bodies of downy chickens and ducks offered for sale as "Easter gifts." In regard to the matter "Our Dumb Animals" comments as follows: "There cannot be anything more at variance with the spirit of what it is meant to symbolize or celebrate than the little, real, dead and stuffed, downy chickens put in the collections of Easter novelties. Many thousands must have been produced in incubators to supply this horrible demand. Then the soft, chirpy little things are pinched to death by two strong fingers compressing the lungs and 'taxidermed' for the trade. 'Christ is Risen' commemorated by cruelly slaying the creature born from an egg, long the symbol of the Resurrection among eastern peoples! The idea is so grotesquely contradictory that an instant's thought would make anyone pass these little victims by in choosing a friend's gift."

War Names.

Babies which elect to be born in war-time must face the risk of having to go through life encumbered with names which mark the period of their birth almost as accurately as a Registrar's certificate. The wife of a gardener in a suburb recently presented her husband with twins, bringing the total number of children to thirteen. Of the older ones two are at the war, and after a lengthy family council it has been decided to name the twins respectively, Nancy Lille and Victor Mons. During the the Boer War I saw a Register of Births, and found that the latest entry was one recording the advent of a little girl who bore the name Peace Victoria Jubilee Huggins, which summarizes in concise fashion the landmarks of English history so far as the Huggins family was concerned. But if Peace Victoria Jubilee still survives she is probably beginning to realise the inconvenience of such a name.

Protection of Wild Birds.

When so much has been written and said about the destruction caused by insect life such as the boll weevil, strawberry weevil, pea weevil, potato bug, house-fly and many others, why is not more said and done to protect the wild birds, the farmers' best friends? How is it that in England you will see 50 birds to every one you will find over here? They are protected and rightly so. Of course, we all know that there are a few birds that do a good deal of harm and others that do both harm and good, but the balance is on the latter side. This cannot be said of insect pests. Even the much-despised English sparrow does far more good than the harm he is always accused of doing. In the old country they are not troubled nearly so much with flies, bugs, weevils or any other kind of insect, and this I attribute chiefly to the feathered tribe. They destroy millions of insects and by so doing lessen to a great degree the harm done to crops by insects, which is far more destructive than that caused by the worst kind of birds. I think that some method of protection should be employed in this country for wild birds, for the more we have of them the less we will have of destructive insects.



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A research institute for the study of apes, to be located in California, is advocated by Prof. Yerkes of Harvard.

Progressive Chinese scholars are proposing to reduce the number of words in the Chinese language.

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\$8.50

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COLLINS MFG. COMPANY,
417 Symington Ave., Toronto

Lens, in the New Statesman, points out very emphatically the seriousness of the eugenic problem caused by the war. During 1915, he notes, England lost about 90,000 men, about half as many again as the deaths from tuberculosis. But neither tuberculosis nor anything other than war, as Sophocles first observed, takes other than our best. Here, then is a calamity unparalleled in our history, alike in numbers and quality. Wellington, be it remembered, thought to the last that the British army should consist of the scum of the earth. Only birth can compensate for death, and yet during 1915 the birth-rate was the lowest on record — 21.9.

It is told of Sardou that, at one time, before his literary success came, he was greatly distressed by being ordered by his doctor to rest for a year, a holiday that neither his purse nor his nervously creative temperament welcomed. He decided to go on working, if need be, to the death, and became so fragile that upon one occasion he was arrested by the police as a girl masquerading in men's clothes. One day he got hold of a discarded donkey, mounted it, and set off for fresh air and sunshine, saying: "Go where thou wilt, my friend; I confide myself to thy taste and good behaviour." The donkey took him to a splendid old villa at Marley, and there he sat contrasting his own lot with that of those who could dwell in such houses. He went on with his pilgrimage and his writing. Many of his plays were refused. Then came the day. He was acclaimed as a dramatic king; gold was poured out to him, and he returned with the self-same donkey and bought the house.

The great American artist, Sargent, who has been living for some years in London, Eng., occupies 33 Tite Street, the house in which the not less famous artist, Whistler, once lived. Whistler's dining-room, a long, narrow apartment with pale yellow-washed walls, was the rendezvous at that time of all sorts of wonderful and radical souls, and we are told, people almost fought invitations to breakfast there. Unhappily the artist's financial condition did not always warrant unchecked hospitality, and on one occasion the bailiffs were actually in possession at the time of a big and distinguished breakfast party. Quite undaunted the inimitable Jimmy persuaded the bailiffs to act as extra waiters and factotums, and "as soon as the guests had departed off he went to his alley in the Fulham Road to produce another masterpiece and so free himself for the forging of fresh burdens."

Ray Stannard Baker ("David Grayson") tells us how once he and Colonel Goethals went to look at a half-mile stretch near the Culbra cut where they had to keep 8,000 men at work, because every night as much land slid into the canal as they could get out in the day. Goethals asked the foreman, after a particularly bad land-slide, how things were. "Oh," answered the foreman, Hagan, "we've had a bad slide, and our dredge is buried there, but everything's fine; we're digging!"

There is a whole lot of land slid down upon us, and that terrible avalanche in Europe is covering up our tracks, our tools, our civilization, but, my friends, we are digging! We have lost time and tools, but we haven't lost the trick of renewing our efforts. We are digging, and God is superintending the job. Oh, you men and women, roll up your sleeves, and help—we're digging!—Christian Advocate.

The Man Who Dropped the Match.
Those who know the fascination of pondering on the great 'ifs' of history will find their thoughts set working to some purpose by the news that the wretched Serbian student Prinzip, whose shot at Sarajevo on June 28, 1914, set Europe afire, is dying of consumption in an Austrian jail.

It is arguable that no single action in all recorded time has so changed the fate of the world as his. It may be that the Great War would have come in any case. That we can never know. But the murder of the Archduke was the immediate cause of it as certainly as a dropped match is of an explosion in the powder magazine where it falls.

If Norman William had died at Senlac,

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CHOICE S.-C. BROWN LEGHORNS (BECKER strain), eggs \$1.00 per 15. Wm. Bunn, Denfield, Ont.

DOUBLE YOUR POULTRY PROFITS NEXT year by investing a few dollars now in eggs for hatching from our extra heavy laying strains of Barred Rocks, White Wyandottes and Buff Leghorns. For fifteen years we have been breeding heavy egg producers combined with superior quality. Our stock, raised on free range, produce large, vigorous chicks, and the early laying kind. Eggs \$1.25 fifteen, \$6.50 hundred. Safe delivery and satisfaction guaranteed. Catalogue free. Charles Watson, Londesboro, Ont.

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FAWN AND WHITE INDIAN RUNNERS Select matings, wonderful winter layers; also Rouens. Fertile eggs \$1.00 per 12. Ernest Howell, St. George, Ont.

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MAMMOTH BRONZE TURKEYS, LARGE hens, good shape and color, seventeen to twenty-three pounds each. Free range; 1915 Guelph winners, five prizes on six entries, mated to (not akin) first prize young Tom, Guelph 1915. Weight 30 pounds, eggs \$4 per 10. Correspondence solicited. George Neil, Tara, Ont.

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PURE-BRED GREAT WINTER LAYING Single Comb White Leghorns, hatching eggs fifteen \$1.00, hundred \$4.00; safe delivery and satisfaction guaranteed. Henry McIntyre, R. R. No. 3, Eganville, Ont.

PURE-BRED BROWN CHINESE GOOSE eggs—twenty-five cents each. Fawn and white Runner duck eggs, one dollar for eleven. Imported stock. Lakewood Stock Farm, Beaverton, Ont.

ROSE-COMB RHODE ISLAND REDS, O.A.C. bred-to-lay. Eggs from select pen \$1.25 for fifteen. B. Armstrong, Coderington, Ont.

PEKIN ROUEN INDIAN RUNNER DUCKS Wyandottes, R. I. Reds, and Black Minorcas one-fifty per sitting. Prize stock. S. R. Copland, R. I. Harriston, Ont.

RINGLET BARRED ROCKS—HEAVY winter layers. Send for photos of flock and further particulars. Settings \$1.50, \$1.00, guaranteed. Baby Chicks 15 cts. Coldham, Barriefield, Ont.

SINGLE-COMB WHITE LEGHORNS, BRED- to-lay. Eggs one-fifty per fifteen, \$7 per hundred. Chicks, fifteen dollars per hundred. Fertility and live chicks guaranteed. F. R. Oliver, Roseheath Poultry Farm, Richmond Hill, Ont.

SILVER-LACED WYANDOTTE EGGS FOR sale, \$1.00 per setting, big, vigorous, well marked stock, very profitable layers. B. Linscott, Brantford.

SINGLE-COMB BLACK MINORCA EGGS one-fifty; also O. A. C. oats. Fred Reekie, Camperdown, Ont.

S.-C. WHITE LEGHORNS BRED FROM PEDI- gree stock with heavy laying records. Eggs \$1.00 per fifteen, a hatch guaranteed, \$4.50 per hundred. Geo. D. Fletcher, R.R. 1, Erin, Ont.

SINGLE-COMB RHODE ISLAND REDS Heavy laying strain. \$1.25 setting 15. Earle Willson, Aurora, Ont.

S. C. RHODE ISLAND REDS.—WINNERS Hanover, Owens Farm Strain, \$2.00 per setting; 3 settings \$5.00. J. W. Wettlaufer, Bright, Ont.

S. C. BLACK MINORCAS, WINNERS STRAT- ford, Galt, Brantford, Hanover. Pen 1, \$2.00; pen 2, \$1.50; 3 settings \$4.00. J. W. Wettlaufer, Bright, Ont.

TRAP-NESTED WHITE LEGHORNS. Certified eggs, record with every bird. Egg checks for sale. Welland View Poultry Farm, Welland, Ont.

THE NEW TABLE EGG DUCK LAYS TWICE as many eggs, pure white, mild, delicious eggs as the average duck. No "black flavor." Send for catalogue and be first in your section to own some of these and other birds. W. A. Staebler, Galt, Ont.

WHITE INDIAN RUNNER DUCKS, EGGS \$2.50 for 15 English Red Caps, \$2.00 a setting. H. Rais, 444 Dundas St. Phone 3370, London, Ont.

WHITE WYANDOTTIE EGGS FROM SPE- cially selected, vigorous stock. Laying strain. \$2.00 per setting. Wellwood Farm, Farmer's Advocate, London, Ont.

WHITE WYANDOTTIE EGGS FOR HATCH- ing, \$1.50 per setting of 15. J. C. Baldwin, R.R. No. 1, Gorme, Ont.

if Wellington had lost at Waterloo, the conceivable consequences would have been less wide than those which might have been averted if this Pan-Slav fanatic had held his hand at Sarajevo, as he confessed he was tempted to do when he saw the Archduke's wife by her husband's side in the carriage.

That is an 'if' that will not bear contemplation.

An odd chance has left him to linger in prison and face death by disease while millions whose lives his shot imperilled have met their end by fire and sword. Five of those said to be implicated with him in the plot were hanged, but his age was nineteen, and as a minor he could not by Austrian law suffer the death penalty. His sentence was twenty years' penal servitude. Should he live to complete it, he would emerge to find the world still bleeding from the wounds that came of his act.

One wonders if his prison walls are thick enough to keep from his ears the clash of nation upon nation around him. If not, his thoughts must be such as would beggar even Aeschylus of imaginative compound [] adjectives.—Manchester Guardian.

The Dollar Chain

A fund maintained by readers of "The Farmer's Advocate and Home Magazine" for (1) Red Cross Supplies; (2) Soldiers' Comforts; (3) Belgian Relief; (4) Serbian Relief.

Contributions from April 14 to April 21: Spencer Merritt, Grassie, Ont., \$2.50; Four Little Friends, Ida, Ont., \$1.75; A Sympathizer, \$2; Union Sabbath School, Beverly Tp., \$5; A Friend, \$1; "Margaret," Durham Co., Ont., \$2; J. Mitchell, Nashville, Ont., \$5; John D. Russell, Maryland, Que., \$1. The pen-name "A Friend," Portland, Ont., \$5, was omitted last week, although the amount was added.

Amount previously acknowledged.....\$2,244.65

Total to April 21st.....\$2,264.90

IF YOU CAN'T GO TO THE FRONT, GIVE.

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

Field Marshal von der Goltz, Commander-in-Chief of the First Turkish army died last week of spotted fever.

The United States has sent to Berlin a demand that submarine warfare be stopped at once. An early break with Germany may be in sight. If war is declared German ships and shipping interned in the United States, to the value of \$80,000,000, will be seized and used in ocean traffic.

Harab-Davies Fertilizers Yield Big Results

Write for Booklet. THE ONTARIO FERTILIZERS, LTD. West Toronto

Yellow-Eye Seed Beans

A limited amount of choice for sale. Also some White Seed Beans for sale at the Dutton Elevator. Send for sample and prices.

WM. McLANDRESS Dutton, Ontario

Lochabar Poultry Yards

Is prepared to fill orders for eggs from prize-winning and selected birds of the following varieties: B. R. Rocks, W. C. Bants, White and Black Leghorns at \$2 per 15. Rouen duck eggs 17 cents each. M. Bronze Turkeys 40 cents each. Express prepaid on all orders over \$2 in Ont.

D. A. Graham, Wyoming, Ont.

The Perfect Piano for the Home. **WILLIAMS** NEW SCALE. The choice of the World's Great Artists. THE WILLIAMS PIANO CO. Limited, Oshawa, Ontario



Home seekers Excursions
Every Tuesday, March to October "All Rail"
Every Wednesday During Season Navigation "Great Lakes Route"

Somewhere out on the prairies where last year Canada's Greatest Wheat Crop was produced there is a home waiting for you. The **CANADIAN PACIFIC** will take you there, give you all the information about the best places, and help you to success.

Particulars from any Canadian Pacific Ticket Agent, or write W. B. Howard, District Passenger Agent, Toronto.

Established 1856
Our handsome Spring Catalogue now ready. A copy will be mailed free on request.

SOW SIMMERS SEEDS

J. A. SIMMERS Limited
Bulbs, SEEDS, Plants
Toronto, Ont.

HUNT'S DIAMOND FLOUR

Established 1854
A never varying combination of the best wheats of Manitoba and Ontario. You can depend on it—always the same." 1675



HUNT'S BEST

WHITE WYANDOTTES I have a very choice lot bred from high-class stock. The kind that produces both eggs and meat. Eggs one dollar per setting. Herbert German, Box 141, St. George, Ont.

For Sale—No. 25 DeLaval Steam Turbine Cream Separator. In perfect order. Dunrobin Farms, Beaverton, Ont.

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

EXPERIENCED HERDSMAN WANTED to take charge of herd of Shorthorns in Western States. Permanent situation to right party. Ernest Robson, Denfield, Ont.

WANTED.—INTELLIGENT YOUNG MEN to learn shipbuilding at good wages. Many ships needed in future. Apply Collingwood Shipbuilding Company, Limited, Collingwood Ontario.

PATENTS AND LEGAL. FETHERSTONHAUGH & CO., PATENTS Solicitors—The Old Established Firm, Head Office Royal Bank Building, Toronto, and Elgin St., Ottawa, and other principal cities.

J. VICAR MUNRO, Architect Designs Churches, Homes and Schools. Reasonable charges—no extras. 54 Bank of Toronto, London, Canada

2,000 lbs. capacity—especially adapted for farm use. Write us for particulars.

We make a specialty of **Farm Scales** Get one at our special price. C. Wilson & Son, 45 Esplanade St., E. Toronto.



FOR SALE IRISH COBBLER SEED POTATOES Home-grown, clean, selected stock. Price reasonable. Write— J. J. WILHELM, Formosa P. O. Bruce County

"KING GARDEN"



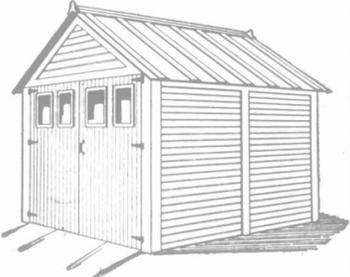
Here's just what you need. It's appearance protects you from weather. construction is standardized. It's all ready to set up. It's cheaper than any other erected in a house. Don't let your housing you drive shed— Our new our garages you free. The M Sidin Preston, C and

My Dad wears **BOB UNIC GLOVES** Known for R.G.L. WINNIPEG

Filtered which allows free flow of sand for Draft Filters used in Sand Pumps for preventing the well. Atmospheric and storing a large amount of water in slow feed, steady hard clumping pumps out of pipes.

H. C. Hogarth HIGHEST FURS—PRICE LIST, SP TRAPPERS GUIDE JOHN HALLAM NO 3 HALLAM

"KING" GARAGE \$65



Here's just the garage for farmers. It's low in cost, neat in appearance, weather-proof, and will protect your car during all kinds of weather. The sides are of frame construction and the roof is galvanized iron. It is built in sections at our factory and shipped all ready to set up. Two men can set it up in three hours. It is cheaper than you can have one erected in any other way.

Don't void your insurance by housing your car in your barn or drive shed—get a "King" Garage.

Our new booklet tells all about our garages. A copy will be sent to you free. Write to-day.

The Metal Shingle & Siding Company LIMITED

Preston, Ont.; Montreal, Que., and Toronto, Ont.



My Dad wears

BOB LONG UNION MADE GLOVES and OVERALLS

Known from Coast to Coast
R.G. LONG & CO. LIMITED
WINNIPEG TORONTO

Exclusive manufacturer and patentee of

Filtered Well Casing

which allows free inflow of water and prevents inflow of sand for bored wells in water sand. Low Draft Filters used in connection with my patent Sand and gravel column system of procuring a good flow of water from water sand. Low Draft Filters, for preventing inflow of sand in deep-drilled wells. Sand Pumps for pumping sand out of deep-drilled wells. Atmospheric Pressure System of elevating and storing water, thus greatly increasing the amount of water that can be taken from wells at slow feed. Swinburn's Syringe Pumps, made of hard chromium. There are none so simple, better, nor more satisfactory. Tools for lifting best pumps out of deep-drilled wells.

H. C. Hogarth, Tillsonburg, Ontario

HIGHEST PRICES PAID FOR
FURS-HIDES-WOOL
PRICE LIST, SPORTSMEN'S CATALOG AND TRAPPERS' GUIDE, FREE FOR THE ASKING.
JOHN HALLAM, LIMITED
NO. 3 HALLAM BUILDING - TORONTO

A Woman's Gardening Experience.

EDITOR FARMER'S ADVOCATE:

I read with much interest the experiences of others in your paper along different lines of farm work, especially relating to poultry, gardening and dairying. Most country housekeepers are thinking and planning a garden. Others, no doubt, are thinking, but find it rather difficult, to interest the men sufficiently, so they will do their share. To these I would say: do something toward gardening this year, if only to spade a small space yourselves (I use a fork, as I find it pulverizes the soil better and is easier to handle) and plant something, if only lettuce, radishes and onions, with a few simple flowers. Do not leave out the flowers, for there is nothing more refreshing and encouraging when tired and blue than some blossoms to work among, or even a few minutes at the window gazing at them will cheer one up and give more courage to face the next duty.

I started on rather a small scale, just a few rows among the potatoes. Now I can get all the garden space I want, as well as help to plant and cultivate. I start a few seeds in boxes in the house. Then, as soon as warm enough, I plant more in a bed on the warm, sheltered side of the house, not forgetting to cover on a few frosty nights. I also transplant from boxes here before putting out in the garden to insure a strong, sturdy plant, and they require less care than when in boxes in the house. I try to have as much as possible ready to transplant into the garden, as I find it easier to keep plants hoed than it is to thin and weed them as they come up. Weeds seem to start first and keep ahead unless vigorous methods of combat are resorted to. In transplanting, I press the earth very firmly around the plants with my foot, and then I throw a little loose earth around them. This seems to keep the plants from wilting down and the ground from drying out.

I buy a few boxes of flowers, pansies, petunias, phlox, or others I may fancy; also some vegetables, as celery, early tomatoes and cabbage. I transplant my lettuce and have lovely large heads. Just here I would say that celery-growing is not as complicated as many amateurs suppose. It was some time before I ventured, but now I have it first on my list. The young plants are put in a single row in a shallow trench, only a few inches deep, which is gradually filled in and the plants are kept well hoed. In the fall I wrap each plant with building paper (not tar paper) and I had the most delicious celery last season I ever tasted. After a few frosts, I took up the celery with considerable earth around each root and packed it in boxes in the cellar, giving water occasionally to keep from wilting. I broke off the celery stalks and put the roots in a box of earth, and, while I did not like the flavor of the celery, it made excellent greens for winter.

Swiss chard is not commonly grown, but it is a valuable addition to the garden on account of its medicinal properties. The curly variety is very ornamental. The seed resembles beets in appearance, and it is grown in the same way. The leaves are cut for greens. The white stalk or stem is used with a cream sauce, and the green stem is used for greens. It grows out again the same as lettuce, never getting bitter or tough. The stem is also used as celery.

A few melons are always appreciated. I am going to try starting the seed between damp flannels before planting. I tried this way with nasturtiums last year and found they were up very much earlier. I soak seeds, such as beans and peas, in warm water to hurry them along.

My garden is all marked in rows for planting after a thorough cultivation similar to that given for field roots. The horse-hoe is run through the rows as soon as possible after each rain, or once a week if at all possible. If impossible, I take a rake or hoe and go over the rows. I prefer the rake after a rain, as it pulverizes the ground better. If there is any special part of the garden I wish to rush, I hoe it every day. If no other time is available or the days are very hot, I get up early and have a

KEITH'S SEEDS

THE FARMER'S SEEDSMAN SEEDS FIFTY YEARS SERVICE

1866 1916

Order now, and get the first choice of our stock.

We pay railway freight on all orders \$25 or over in Ontario and Quebec
Our Golden Jubilee Catalogue is at your service.
Write for one to-day. It is FREE.

<p>GOV'T. STANDARD Bu.</p> <p>No. 1 Red Clover Almost Extra No. 1 for Purity.....\$16.50 No. 1 Red Clover..... 15.50 No. 2 " "..... 14.75 No. 1 Alsike..... 13.00 No. 2 " "..... 11.00 No. 1 Timothy (Almost Extra No. 1 for purity)..... 6.00 No. 1 Timothy Slightly hulled, but Extra No. 1 for purity (bargain)..... 5.65 No. 2 Timothy..... 5.25</p> <p>ALFALFA Per bus.</p> <p>Ontario Variegated No. 1.....\$25.00 No. 3..... 20.00 No. 2 for purity..... 20.00 Montana (Northern grown) No. 1..... 17.00 Lyman's Grimm No. 1..... lb. .75 Alberta Grimm No. 1..... lb. .75 Northwestern Grimm No. 3 lb. .65</p> <p>Allow 30c. for each cotton bag required—Clover and Timothy.</p> <p>Mangel Seed PRIZETAKER SLUDSTRUP & LEVIATHAN</p> <p>1 lb. Packages Postpaid at 30c. lb. Express or freight collect 22c. lb. In bulk, if 5 lbs. or more ordered, of one variety 20c. lb. Same postpaid, 25c. lb. Yellow Intermediate, Mammoth Long Red, Giant Half Sugar, 2c. per lb. lower than above prices. White Intermediate Carrot, 60c. per lb.</p>	<p>SEED CORN. Bags Free. Per bus. (70 lbs.) on cob. In crates In bags</p> <p>1914 and 1915 growth.</p> <p>Wisconsin No. 7 3.00 \$1.80 Golden Glow..... 3.00 1.75 Bailey..... 3.00 1.75 Leaming..... 3.00 1.75 White Cap..... 3.00 1.75 Longfellow..... 3.00 1.90 N. Dakota..... 1.90 Comptons..... 1.90</p> <p>GRAIN—Sacks Free Per bus.</p> <p>O. A. C. No. 72 Oats Registered..... \$ 1.40 O. A. C. No. 72 Oats Unregistered..... .85c. and 1.00 O. A. C. No. 3 Oats..... 2.00 American Banner registered. (In sealed bags of 2 1/4 bus.) 1.25 American Banner unregistered..... .83 Siberian Oats..... .83 O. A. C. No. 21 Barley, registered..... 1.40 O. A. C. No. 21 Barley, unregistered..... 1.10 Marquis Spring Wheat..... 1.65 Red Fife Wheat..... 1.65 Golden Vine Peas..... \$2.15 and 2.50 Canadian Beauty Peas..... \$2.15 and 2.50 Early Britain Peas..... 2.50 Prussian Blue Peas..... 2.25 Black Eye Marrowfat Peas..... 2.15 Spring Rye..... 1.70 Rape (Dwarf Essex)..... per lb. .10 Thousand Headed Kale..... lb. .22 Sorghum (per 100 lbs.)..... 5.00 Dutch Sets, per 100 lbs..... 10.00</p> <p>POTATOES per bag</p> <p>Eureka, Cobbler, Delaware and Green Mountain..... \$2.75 Early Ohio..... 3.00</p>
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GEO. KEITH & SONS SEEDS 124 KING ST. E. TORONTO



Dispersion Sale of Holsteins

Local conditions have compelled me to sell by auction at my Lake Marie Farm, 1 1/4 miles north of King Sta., G.T.R., on

Thursday, May 11th, 1916

My entire herd of

75 Head of Holsteins

selected from the leading herds of Ontario, regardless of cost, on individual merit and high official backing. Many of them are prize winners at the big shows and carry the best producing blood in Canada. Many will have calves at foot or be about due to calve to the stock bull, Segis De Kol, a G. son of the great King Segis, who will also be sold as well as his assistant in service, Sir Colantha Abbekirk, and about a dozen other young bulls of breeding age.

Terms:—Cash unless otherwise arranged.

For catalogues write, R. S. Starr, Manager, King P.O. Ont.

J. T. Saiegon, Maple; J. D. Readman, Newmarket, Auctioneers

Sale at 12 o'clock sharp

R. S. Starr, King, Ont.
Manager

Sir H. M. Pellat
Owner



As soon as YOU have a "Florence Kitchen", cooking will be a real pleasure. McClary's Florence Blue Flame Oil Stove is always instantly ready when you want to cook. The heat is all used for cooking and cannot make a hot kitchen in summer.

You can keep one—or four—burners at an intensely hot flame, or at a mere simmer. To regulate the heat you turn a lever according to a dial.

McClary's Florence oil stoves are clean, safe, economical, reliable. No wicks to trim nor valves to leak. The oil supply is automatically constant.

McClary's ovens are perfect bakers.

Ask your dealer to show you the Florence. If he cannot, write to our nearest branch.

McClary's FLORENCE OIL COOK STOVES Wickless, Valveless, Blue Flame, Automatic

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EUREKA SEED DRILL

Quicker, Surer Planting

The Eureka Garden Seed Drill is a real necessity to the man who desires the greatest return from his land.

Does the work swiftly and accurately—no skips. The EUREKA pays for itself in time saved and bigger crops. Book tells how drill can be adjusted for hill-dropping ploughing, hoeing and cultivating.

Cut out and mail coupon to-day for Free Book, giving full particulars of our Eureka Seed Drills, Cultivators, Sprayers, Planters and Seeders.

The Eureka Planter Co. Limited
136 Winnett Street
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COUPON

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Please send book on Eureka Garden Tools and Implements.

Name

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MANGEL "OUR IDEAL"

Yellow Flesh LEADS THE WAY. BEATS EVERYTHING. For Feeding. For Cropping. But be sure it is "OUR IDEAL."

Try one pound CANADIAN GROWN Seed 45c. P. Free.

Other Leaders
"Waterloo Giant White Sugar." The best Sugar Mangel 40c. per lb. Post Free.
"Waterloo Giant Yellow Intermediate." Our SPECIAL Selection 40c. per lb. Post Free.

SPECIAL OFFER
One pound each of above 3 Mangels for one dollar P. Free. Half pound each of above 3 Mangels for 60c. Post Free. A Trial is All We Ask.

BEST HOME GROWN and Imported Seeds. None Better. Few as good. CATALOGUE POST FREE ON APPLICATION.

Special Collections (extra value) Vegetable and Flour Seeds. 12 packets 25c. 18 packets 50c. 32 packets \$1.00. All Post Free.

ONTARIO SEED CO. Successors, WATERLOO, ONTARIO. DEPT. A.

quiet hour in the garden before starting the day's work.

Last year my flowers were poppies, balsams, asters, dahlias, gladiolas, cosmos, petunia, phlox, nasturtiums, sweet peas and morning glories. For vegetables I grew tomatoes, peas, beans, cabbage, lettuce, radishes, Swiss chard, celery, carrots, parsnips, onions, corn, citrons, pumpkin, cucumbers and squash. Vines are allowed two rows. Sometimes peas and radish which come out early are grown beside them. Last year I grew most of my own seed. I found celery, parsnip and beet seed not hard at all to produce.

A very important thing to remember in gardening is a poultry-proof fence. I keep heavy fowls that will not go over or through ordinary wire fencing. Small chickens are a benefit to a garden, as they destroy many injurious insects and their scratching also helps. As soon as they are large enough to do any damage, they are taken to the corn field in a portable poultry house and allowed to assist in cultivation there. Leghorns or light fowls have no place on a farm in my estimation, as it is impossible to fence against them, and the others save the trouble and expense of shutting up and feeding. There is nothing more discouraging than to find hens destroying your garden.

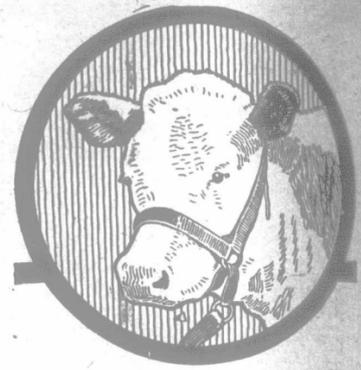
POLLY PRIMROSE.
Northumberland County, Ont.

World's Champion Milk and Butter Producer.

A. W. Morris & Sons, of California, hold an enviable position among dairymen at the present time, owing to Tilly Alcartra, a six-year-old Holstein cow owned by them, having completed her fourth successive year under test, which accords her the largest producer of both milk and butter for four years. She now holds the world's record for production. It was in her third lactation period that she made a record that will be difficult for another cow to attain. Commencing this lactation period at the age of five years, one month and six days, she gave under official test 715.4 pounds of milk, making 29.27 pounds of butter in seven days. Eight months after calving she made 473.1 pounds of milk, and 19.23 pounds of butter in seven days. By the end of the year she had produced 30,451.4 pounds of milk and 1,189.03 pounds of butter. She is the only cow to give over 30,000 pounds of milk in one year. During five months of the time that Tilly was making this record she was carrying a calf. After dropping her fourth calf she started stronger than ever in the producing line, and broke her previous high record by giving 785.7 pounds of milk and 32.23 pounds of butter in seven days, and 308 days after calving she made 527.7 pounds of milk and 22.46 pounds of butter in seven days. This record-breaking cow was on a fair way to break her own record, but she suffered from impaction in the month of February, and fell off about 20 pounds per day in milk. A remarkable feature was that she came back to 63 pounds of milk per day when she had been over 10 months in milk, and was then about six months along in calf. However, in spite of the mishap in February she finished her fourth year under official test with 29,826.6 pounds of milk and 1,190.43 pounds of butter to her credit.

Tilly Alcartra dropped her first calf when 2 years 6 months and 17 days old. In the four lactations she produced 96,586.5 pounds of milk, making 3,776.88 pounds of butter, besides leaving three bull calves and one heifer, all of which are living. Few cows have a constitution to stand continued high production and be a regular breeder, but it is claimed that Tilly appears in perfect physical condition, and, barring accidents, may be able to better her own records after dropping her fifth calf, which is due May 15.

A cow of this calibre means a great deal to the breed, not only in the way of advertisement, but, as like tends to produce like, her progeny will aid in raising the producing power of many herds. The cow that exceeds the record set by Tilly Alcartra will be a wonder.



Raised on "Purina" CALF MEAL

ARE your calves growing as fast as you would like? Save milk and money by feeding Purina Calf Meal, the perfect milk substitute, containing 33 per cent. Protein and not less than 4 per cent. Fat. Ask your dealer about the special introductory price.

"PURINA" feeds are put up only in Checkerboard Bags.

Scientific feeding Chart sent Free upon request.

The CHISHOLM MILLING CO., Limited
TORONTO

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89c PER ROLL

ALSO HEAVIER GRADES AT EQUALLY LOW PRICES

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CATALOGUE AND SAMPLES FREE—WRITE TO-DAY

The Halliday Company Limited
FACTORY DISTRIBUTORS
HAMILTON CANADA

Agricultural Lime

Mr. Farmer: Are your lands yielding the crops you should expect? How about your clover and alfalfa crops, are they a disappointment each succeeding year? If so, your land needs Lime, and it needs our Agricultural Lime. Write for prices and further information to

Crushed Stone, Limited
47 Yonge St. Arcade, Toronto, Ont.
Works: Kirkfield.

Mallory's Strawberry Plants for Satisfaction and Profit.

Leading varieties \$4.00 per 1,000. Fifty plants each of four choice varieties, early and late for \$1.00. Send for price list.

N.E. Mallory, Blenheim, Ont.
Write for Booklet about

Adirondack Sturdy Stave Silos
25% Cheaper—100% More Durable
THE ADIRONDACK SILO CO. OF CANADA, LIMITED Montreal

425 Atwater Avenue.

Variety

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Variety in Farm Life.

EDITOR THE FARMER'S ADVOCATE:
 DEAR SIR,—Although there is probably more variety about farm life than almost any other profession we could mention, I am convinced that there is not enough variety in the life of the average farmer. Because of the increased amount of chores due to winter dairying and stock raising and the rush of work in spring and summer, as well as to the growing scarcity of hired help, many farmers find little or no time for social or religious life, without which their lives must become sordid and narrow.

To be a successful farmer, from the money-making standpoint, is surely not enough. The writer knows of individuals who, while possessed of the money-making faculty, have in their later days shrunken into the veriest shadows of men because they lived solely for one thing, and failed to obtain the means that give wholesome variety to life. It is pitiful, but it is true, that thousands of farmers become so engrossed in money-making and so occupied with the labors and duties of farm life that they lose all interest in, and finally all capacity for, the higher and nobler things.

It has been said that every man should have not only a vocation, but an avocation. A man's regular work will be done with greater dispatch and clearness of mind, I believe, if he has some side issue. Some avocation to divert his attention from the one line of thought and action. There are certain things which even as busy farmers we cannot afford to leave out of our lives if we would develop and reach the highest standards of manhood, as well as know that variety which is the spice of life.

Let us never be too busy to travel a little, if it is only one short trip a year. Travel is a great means of education, not only because of what we see, but because of the people we meet. It gets us away from ourselves and widens our mental horizon as perhaps nothing else can do.

Let us never be too busy for a little good reading. The farmer whose only reading matter is the daily paper is missing a wealth of good things that are, after all, about the cheapest commodity (valued in dollars and cents) to be found on the market. After a hard and trying day's work I have picked up my Whittier or Longfellow and, in the words of the latter, "the cares which infested the day have folded their tents like the Arabs and silently stole away."

Let us never be too busy for a little sport in our lives. After all, we are only grown-up boys, and we will do our work with greater zest and renewed energy if occasionally we shoulder a fish-pole or get out with the boys on the baseball diamond. Don't let the excuse of being too tired or not having time prevent us from getting out at least once in a while with the boys in their innocent and wholesome sports. I have known men who ever seemed possessed of the buoyancy of youth and whose lives were fresh and lightsome because they had the happy faculty of being one with the boys.

"Rare is the soul, fair is the soul
 That has kept, after youth be past,
 All the art of a child, all the heart of a child,
 Holding his childhood fast."

Then let us not be too busy for religion in our lives. There are too many farmers to whom Sunday comes like any other day of the week, except that perhaps it brings a little more rest. A change is sometimes better than a rest, and for a man to throw aside his working clothes and to appear clean and well dressed in a place of worship for an hour on the Sabbath will surely result in mental and physical benefit, not to mention the social and spiritual good that should result as well.

It seems to me that farmers should be religious and reverent, for they work in partnership with the Creator and have so many evidences in Nature of His power and skill. Perhaps, after all, there are many who see Him in His great out-of-doors who are never found in the temples made with hands. Let us, as tillers of the soil, be more religious, but let our religion be not a thing of form and custom, but something that shall

PAGE FENCE Direct From Factory Prices

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Special Poultry Fence—Not painted. No. 9 top and bottom, balance No. 13 uprights 8 inches apart. 20-bar, 60-inch, 61c. per rod; 18-bar, 48-inch, 55c. per rod.

Poultry Netting—Per roll of 150 feet, 24-inch, \$2.35; 36-inch, \$3.00; 48-inch, \$4.00; 60-inch, \$4.75; 72-inch, \$5.60.

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Get an O. K. Planter and give your crop a good send off. The O. K. drops the seed in finely worked soil and fertilizes and fills in on the same trip. Does the work in a quarter the time of hand planting and you get an even stand in rows that are easy to cultivate and harvest.

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A Ford car bought part by part costs only \$40 more than the list price of the complete car as against \$940 more for the parts of the average car priced around \$1000 and less

\$940—Cost, over and above the list price of the car itself, for enough spare parts to build the average touring car priced around \$1000 and less.

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\$900—Difference in part by part cost of cars.

And remember, both by laboratory tests and actual service tests, the parts of a Ford car have proved themselves superior, part by part, to those of any other car.

Don't these figures drive home what is meant by the low upkeep cost of the Ford?

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Ford Runabout \$490
Ford Touring - 530
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All cars completely equipped, including electric headlights. Equipment does not include speedometer.



AN APPLE LOST AT EVERY TICK

Every tick of your watch from now till the end of June records the loss of valuable apples. This enormous waste can be prevented, and it is a duty every farmer owes to himself and to his country to prevent it.

THE EMPIRE NEEDS THIS FRUIT.

Now is the time to act. A thorough spraying now with

SOLUBLE SULPHUR

will make the crop into a marketable product instead of a hog food. Use 10 to 12 1/2 lbs. to 40 gallons of water. After the leaves and buds come out, use SOLUBLE SULPHUR, 1 to 1 1/2 lbs. to 40 gallons of water, and add

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Write us to-day about Sprays and Pumps. Tell us your problems—we will advise you fully.

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Everything (Soluble Sulphur, Lime Sulphur, Arsenate of Lead, Dust for Spraying) Sprays and Dusters, Hand and Power Pumps and Accessories

make us good to live with and fit us for two worlds.

Just as we need to practice rotation in crops to get the best results from the land so in the mental and physical soil we need variety of production. I know a farmer who has grown hay in one field continuously for ten years and grain on another for probably the same length of time, with the result that the crops are scarcely worth cutting. If we grow the same mental crop, year after year, it too is likely to run out. Let us have diversified interests, and so our lives shall be productive, useful and happy.

MORLEY L. SWART.

Middlesex Co., Ont.

Chicken Pointers.

EDITOR THE FARMER'S ADVOCATE:

Granted that you have your chickens hatched or will shortly have them hatched. First of all, be in no hurry to feed the newly hatched chicks. This point calls for emphasis again, because it seems so hard a thing for anyone to do to keep from feeding the fascinating newly-hatched chickens.

Nature has looked after its own abundantly in the case of the chicks, and they can take care of themselves for three days or more without any feed that you may provide. The entire yolk of the egg has been enveloped within the body of the chick before it came from the shell. The chick must digest the yolk first, and if you feed it, meanwhile, you give its delicate little digestive organs a very heavy handicap indeed.

You can safely wait forty-eight hours anyway, and better for seventy-two hours, after hatching, before feeding the chicks. Then start them off with water—from a fountain, so that they cannot, bodily, get into the water and suffer therefrom, and give pin-head oatmeal, or dry bread crumbs. You may feed some hard boiled eggs chopped very fine, if you have them to spare; also cracked wheat or screenings.

Be careful to feed only a little at a time and feed often—five or six times a day for the first week; then down to three times a day by the time the chicks are a month old. The hopper method of feeding seems best, having the feed, such as cracked grains, grit, and dry chopped stuff before the chicks in hoppers—sort of a free-lunch counter to which they may go and help themselves at all times. For watering, I prefer a simple little fountain made from a salmon can and a saucer. Simply punch a hole in the side of the can, say, three-eighths of an inch from the top, and fill the can with water, put saucer face down on top, and turn all upside down, and you have a very suitable, convenient little fountain that will protect the chicks from getting wet.

For incubator chicks I recommend following closely the suggestions and instructions given by the manufacturer. Most of the manufacturers of incubators and brooders get out quite elaborate books of instructions on raising poultry. If your chicks are hen-hatched, do not let the hen run at large with them. Tie her or keep her confined in a suitable coop, and do not let the chicks run through the wet grass in the early morning. Keep guard against having the chickens exposed to rain from any thunder storms that may come up quickly. It is sure destruction to them if they get soaked with cold rain.

At all times make war against lice. Lice on a chicken—especially if on the chicken's head—will make a very unhealthy chicken, indeed, if they do not kill it.

The old hen is almost sure to have lice. Treat her for lice anyway. Use some of the handy prepared louse killers to be had in packages at your dealers, and, as well, keep the coops clean—you may spray or paint them with coal-oil; and if the hen can have access to a dust-bath, all should be well.

If possible, give the chickens the advantage of some freshly dug ground on which to forage. You might sow some seeds, clover or grains of any kind, so that these, on sprouting, will furnish tender green feed for them to pick and eat. You can trust the young chicks without the hen to run in your garden amongst and between the rows of corn, potatoes and all garden truck. They will capture and eat many bugs and worms.

By all means, do not attempt to raise chickens on old, dirty ground where hens and chickens have been year after year for many years.

Elgin County, Ont.

E. L.

Home Grown Mangel Seed

We have secured a limited quantity of home grown seed, grown in Waterloo County by Mr. Henry Stokes, under the supervision of the Agricultural College at Guelph. The seed we offer is the Yellow Leviathan variety which is well known. The last five years at the College the home grown seed has surpassed in germination and productivity the seed of the same variety which has been imported.

Give it a Trial. Price 45c. lb., postpaid.

SEED GRAIN—We have the following still on hand. Banner Oats, 75c. bush. Mammoth Cluster, 75c., O.A.C. 72, 80c., Newmarket, 75c., Early Empire, (ripens with Barley) 75c., Early Yelder, (new imported) \$2.00 bush.

Barley No. 21, 85c. bush., Wild Goose wheat, \$1.70 bush., Black Barley, \$1.50 bush., Rye Buckwheat, \$1.20 bush., Seed Peas, \$2.00 bush.

Red Clover No. 1, \$17.00 bush., Timothy No. 1, \$6.00 bush., No. 1, Alsike, \$14.00 bush., Alfalfa, \$16.00 bush.

We have a large stock of seed potatoes. Write for prices

Terms Cash. Ex warehouse. Bags extra at 25c. each.

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(Government Standard)

	Per bus.
No. 1 Red Clover	\$16.00
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(Northern Grown)	
No. 2 Timothy	5.50
(This seed grades No. 1 Purity)	
No. 3 Timothy	5.00
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Marquis Spring Wheat	1.60
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Terms, cash with order. Bags extra at 25c. each. On all orders east of Manitoba of \$25 or over we pay the freight.

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Gardening for Pleasure and Profit

demands careful selection of seed, for unless you plant the very best seeds you are partially wasting your soil and fertilizer, as well as your time and labor. The safe selection is

Ewing's Reliable Seeds

—the favorites throughout Canada for over Forty Years. Market and amateur gardeners alike prefer Ewing's Seeds because they show a very high percentage of germination, and produce uniformly vigorous plants of the choicest strains.

If you have any place at all for it, be sure to put in a garden this spring—and be sure, too, that you plant the right seeds—Ewing's. Write for our Illustrated Catalogue and if your dealer hasn't our seeds, order from us direct.

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Seed Merchants
MCGILL ST. MONTREAL

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our sales office nearest you for prices and terms on fertilizers adapted to your soil and crops

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New York, Boston, Buffalo, Detroit

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TWO CENTS is all it will cost to write us a postal and we will mail free, postpaid, catalogue and colored art folder showing complete line of bicycles, tires and supplies and particulars of most marvelous offer ever made on a bicycle. You will be astonished at our low prices and remarkable terms. **MAKE MONEY** taking orders for Bicycles, Tires and Sundries. **DO NOT BUY** until you know what we can do for you. Write to-day.

HYSLOP BROTHERS, LIMITED
DEPT. 2 TORONTO, ONT.

Sees No Hope in Co-operation.

EDITOR THE FARMER'S ADVOCATE:

The present appears to be a very opportune time for the discussion of all topics bearing upon national efficiency and economy in production and distribution. And, amongst those questions, co-operation among farmers looms up large on the intellectual horizon of its advocates. But, whilst I commend the wisdom of discussing the question to-day, I cannot share in the enthusiasm of its projectors. The average man is not of a high intellectual order, and must, therefore, seek employment where intense mental concentration is not needed. Farming is an occupation where a man, continually facing difficult problems, requires sound judgment, and an intimate knowledge of agricultural science and economics. But the introduction of co-operation gives the brainy man no advantage over the stupid and inefficient. The benefits, if such there be, are common property, accruing to all who market through the society. And thus, in so far as the organization would benefit the farmer, to that extent it would attract those who reap the reward of other people's energy. The industry might gain for a brief period, but sooner or later old conditions would return. People would go back to the land to join the ranks of food producers until the natural law of supply and demand would bring the farmer to his former financial status.

Much of the enthusiasm for co-operation has arisen from the presentation, by voluble writers, of the aggregate earnings of the societies. But when these are divided up among several hundred farmers, the individual saving is a mere bagatelle. And, besides, in reckoning up those earnings, the society's prices are usually compared with those of the local merchant. But the man, who to-day buys for cash, purchases from the mail order houses in the cities and sells small articles, such as eggs and poultry, direct to the city dealer, saves on these things all he could hope to procure through a farmers' organization. The largest co-operative society on the continent, the Grain Growers' Grain Co. of Winnipeg, has not made its patrons wealthy, and never will. The regeneration of agriculture lies deeper than the marketing of produce. It exists in the individuality of the man. And until the governments and municipalities of this country bring to the farmer the advantages of a higher education, better roads and city conveniences, we shall continue to be fed by the unambitious hewer of wood and drawer of water, in spite of all the farmers' clubs that can be brought into existence.

Huron Co., Ont. J. L.

Ensure the Clover Crop by Sowing Plenty of Seed Per Acre.

The Commission of Conservation have a number of farmers, conducting demonstration work under their supervision. They report that out of twenty-three farmers in the eastern Provinces, only two claim that they were sowing their clover seed thick enough to ensure a good catch, before they commenced experimenting. Six pounds was the average amount sown, but they have now found out that it pays to sow 10 pounds per acre. Nine of these farmers have started to grow their own clover seed as a result of the demonstration work. J. M. McLean, of Prince Edward Island, finds that on his farm the second crop of hay is always much thicker and of better quality with the thick seeding than with the thin. When clover seed is grown on the farm more seed is usually sown per acre than if cash has to be paid for it.

Numerous comparisons have been made on the Illustration Farm in the way of trying out home-grown seed along side of that purchased, and it is found that seed grown on the home farm usually gives the best results. Therefore, it would be a good idea for every farmer who has a clean field to plan to grow his own clover seed. The first crop should be cut early so as to give the second, or seed crop, an early start.

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The scientific farmer has discovered the one WASTELESS and PROFITABLE way of weaning-up or raising calves. The liberal use of

Caldwell's Cream Substitute Calf Meal

Analysis shows that it contains practically the same nutriment as whole milk, at a fraction of its cost. It is vastly superior to imported calf meals, for the simple reason that the foreign manufacturers must sacrifice quality to meet the heavy freight and duty charges. Like our famous Molasses Meal, our Cream Substitute is guaranteed by the Government, and its analysis is plainly printed on tag attached to every bag.



N.B.—Ask us to show you how much money you can save annually by using Caldwell's Cream Substitute. Your Feedman handles it. If he is out of it, write direct to us.

The Caldwell Feed & Cereal Co., Limited, Dundas, Ont.

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A real fence, not netting. Strongly made and closely spaced, a complete barrier against animals of any kind. Keeps the small chicks confined. They can't get through. Does all and more than is required of a poultry fence.

The heavy, hard steel top and bottom wires with intermediate laterals will hold a carelessly backed wagon or unruly animal and immediately spring back into shape.

The wires are held together at each intersection by the Peerless Lock.

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Percherons and Holsteins—We have Percheron stallions from yearlings up, 1st prizewinners at Toronto; also mares and fillies from yearlings up, quality and type unsurpassed. In Holsteins we have for sale: cows, heifers, and young bulls. Come and make your selection.

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Caustic Balsam
 GOMBAULT'S
 A Safe, Speedy, and Positive Cure
 The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTIC OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
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TRADE MARK
Mexican Liniment
 Should be in every stable.
 STOPS BLEEDING INSTANTLY FOR CAKED UDDERS IN COWS
 SORE NECK GALLS DISTEMPER
 SPAVINS CURBS or SPLINTS
 It has no equal.
 25c., 50c. and \$1.00
 Sent prepaid on receipt of price if your druggist cannot supply.
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 Any person, however inexperienced, can readily cure either disease with
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 —even bad old cases that skilled doctors have abandoned. Easy and simple; no cutting; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in
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 Write us for a free copy. Ninety-six pages, covering more than a hundred veterinary subjects. Durably bound, indexed and illustrated.
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Salt Brick
Great Conditioner & Worm Destroyer
 Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc., in such proportion as will keep horses in excellent condition and free from worms. Bitter Lick keeps the appetite keen; all horses like it; tones the digestion and prevents colic. It has no cheap filler and takes the place of worm and condition powders, etc., keeps horses healthy for only one cent a week.
 Ask your dealer or write for booklet to
STEELE BRIGGS SEED CO., Winnipeg, Man. and Toronto, Ont.

Dr. Page's English Spavin Cure
 Cures the lameness from Bone-Spavins, Side-Bones, Ringbones, Curbs, Splints, etc., and absorbs the bunches; does not kill the hair, absorbs Capped Hocks, Bog-spavins thick pastern joints; cures lameness in tendons; most powerful absorbent known, guaranteed, or money refunded. Mailed to any address, price \$1.00. Canadian Agents: **J. A. JOHNSTON & CO.,** Druggists, 171 King St. East, Toronto, Ont.

Percheron Stallion Napoleon Britain [4457], foaled April 10, 1913. Black with star, weight 1,800, height 16/1. Also 3 black stallions rising 2 years old at farmers' prices. **NORMAN ATKIN,** Amherstburg Station, Ont. North Malden P.O.

Farming by Book and Farming by Brawn.

EDITOR "THE FARMER'S ADVOCATE":
 Seth Whipperton, over on the "8th," says he has to go into a hotel bar-room to discover how little he knows about farming. He always has a case of enlargement of the glands in his neck whenever he finds himself by chance in the presence of an arm-chair farmer—and lately of an arm-chair fighter. Seth never trusts himself wittingly in the presence of either one or the other.
 I suppose there are a great many Seths paying regular taxes in the land. And since looking at the subject at intervals for some time I fancy there will always be a great many Seths in our farming fortresses.

Perhaps it is a safeguard Mother Nature has thrown out to secure the perpetuation of the animal and plant kingdoms. There may be inscrutable barriers ahead of the enthusiastic persons who seek to harness all activity to an electric button. This theory would seem to be borne out by the fact that the farther we go from the places where the physical environment is crudest and manual labor most severe the less vitality we find in both the human and vegetable kingdoms. It is an established fact, of course, that the natural orders have depended on the country (as opposed to the city) for reproduction from early ages.

And so Seth's vague vindictive sarcasm against sitting-room agriculturists may have a justification too far off for him to realize its nature but grounded in one of the sublime truths of existence.

Commenting on the fact that very few of the full-fledged Agricultural College graduates turn out to be practical, successful farmers in the ordinary sense, and magnifying an instance of a white-shirted failure who started a small-sized "Experimental Farm" as a commercial proposition half a mile from Seth's,—my hard-headed friend is by no means equivocal in his views.

"If we all become Professors," says Seth, "who'll do the work?"

The neighbors say that when Seth was a young man searching for a suitable helpmeet he had already pronounced views on the subject of the wearing quality of girls, and had chosen his wife in conformity to that point of view.

To say that a man cannot spend four years in the student environment without becoming spoiled for an actual agricultural career seems unwarranted at first view. Seth knows where the trouble lies, though he does not see what causes it. He would talk this way. "You can't farm in a white shirt and patent shoes." The white shirt and patent leather shoes are merely symbols of an indifference to results, so common with the type of fellow he shuns. The student becomes reckless of results, because he feels that he is looking for facts, and at school, neither time nor money count, in the sense that they count on the actual farm, where the time spent must yield an income regardless of facts. The farmer must keep his hand on the tiller of results throughout every process. No white shirt nor patent shoes for him until he reaches port.

Seth thinks going to college takes out of a man the willingness to be one of millions of humdrum toilers who must be counted on to till ordinary farms and furnish the staple foundation on which all the fancy farming grows and preys. After experiencing the exhilarating dash of a little sprint behind a spirited team, while an enlivening class look on, to descend to the task of following Nell and Jerry down a never-ceasing furrow is beyond the ability of the ordinary one-lived human being, he says.

Students are for learning, not for doing, says Seth. Three things are needed more than ever in a farmer:

1. To know by instinct what to do.
2. To be willing to do it without thought.
3. To be able to do it well from having done it many times.

I once told the old man that his super-farmer was very much of a machine. "To be sure," he retorted. "Show me the good man that isn't near like a machine."

Seth is naturally suspicious of new truths, and therefore reluctant to follow the advice that comes to him so freely in pamphlet form. "These, by the way,



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 Mail orders a specialty. Satisfaction guaranteed.
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 Her name is "Diddle, of Chapin, Calif Meal, which co
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 A useful preventive "The Blatchford" banded and healthy substitute since the or direct from the Blatchford's Pig M of young pigs at v See Actual you how to increas Steele Briggs Se

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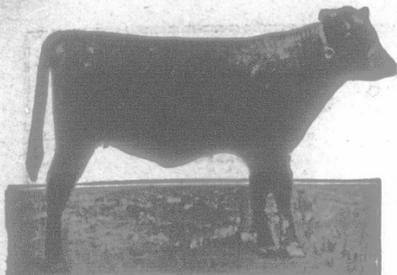


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Raised Without Milk!

Her name is "Daisy" and her owner, W. A. Biddle, of Chapin, Iowa, raised her on Blatchford's Calf Meal, which costs less than half as much as milk.

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A useful preventive of scouring. Calves raised "The Blatchford's Way" are heavier, bigger-boned and healthier. Known as the complete milk substitute since the year 1876. Sold by your dealer or direct from the manufacturer.

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Steele Briggs Seed Co., Dept. 68, Toronto, Ont.

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Shoot from the porch. Work your trap from the same place. A boy can operate it, yet it does the work of a fixed trap. Always have one on your hunting trips. It will keep stormy days from dragging. Costs only \$4.85.



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Therefore it lasts, simply because it can't very well do anything else. Our folder explains more fully—write Dept. W.

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SHAW MANUFACTURING CO.
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Seth can not avoid, for the mailman brings them to the door, and Seth does not know whom to blame for sending them.

"I can at least do this much," he says: "I can stay away from the darned lectures."

The mass of new agricultural findings recorded by investigators is banned in advance by Seth. His objections to these scientific discoveries have evidently been prepared in advance to meet obstreperous fellows who have tried to corner him and cram some of their information down his throat. These objections are presented by Seth before the advancing innovation. He considers them an effectual barricade.

1. Is it true?
2. Is it practicable?
3. If true and practicable, is it applicable to established conditions on my farm?

There will always be a great many Seths. They are the touchstone of agricultural science.

Perth Co., Ont. JAS. A. MCCracken.

Preparing for Sowing Roots

EDITOR, THE FARMER'S ADVOCATE:

I have been very much pleased with your paper and the way so many practical subjects are dealt with, and at a time when they should be a great help to a large number of people, and, with your permission, I will send you these few lines on our plan of preparation for growing mangels and turnips.

Our soil is a fairly heavy clay loam, and we arrange to have the manure applied in the fall for this purpose, and the land ribbed or cut and covered just before freezing up time.

In the spring we work the land over frequently with harrows, disk and cultivator, until a week or ten days before we wish to sow either mangels or turnips, and then we drill the ground, throwing fairly deep drills, usually 3 feet apart, especially for mangels. We sow any fertilizer used just ahead of the drill plow. After drilling, we roll the drill, and leave for a week, or until we are ready to sow. Then we take the harrows and give these drills a stroke lengthwise, which pulverizes the surface, takes off any dry crust which may have formed, and at the same time destroys the weeds or any seeds which will have germinated during the week; and this allows the mangel or turnip seed to be sown in a warm, moist soil in which the capillary action has become again established; for this is always broken for a few days by the act of rigging or drilling, and this gives the root seeds the same chance or the advantage of any weed seeds which may still be in the ground. This harrowing of the drills does not level them nearly so much as might be expected, as the ground has become fairly firm on the surface during the week or ten days after rolling.

Having the drills made the proper width to suit the grain seed drill, we can sow two, three or four rows at a time, and it only takes a short time to sow a few acres of roots, and we have found the grain drill very much more convenient and satisfactory than the special root drill for this purpose.

After sowing, if the weather be dry, we use a light roller to firm the ground around the seed, and in a few days we use a weeder or light harrow again on the top of the drills, and by this method, followed now for several years, we have been able to get a quick, clean growth of the plants wanted, reducing the hand hoeing to a minimum. By this plan we have, on different occasions, had both mangels and turnips ready for thinning before those sown on fresh-made drills although sown a week sooner.

Durham Co., Ont. R. E. OSBORNE.

Gossip.

At the Hereford sale of W. J. Davis & Co., of Mississippi, \$511 was obtained as an average, and this marks an advance of nearly \$100 over the average of the last event. W. T. McCray purchased some of the best lots, included among which was the bull, McCray Fairfax, for which he paid \$1,400. The junior champion at the Atlanta Fair, Vernet Prince 28th, went for \$1,000, which was considered a bargain price. No phenomenally high bids were placed, but the average throughout was good.



Give her good silage and she'll give you big PROFITS

YOU cannot expect your cows to produce a large flow of milk if you keep them on dry feed. Give them rich, juicy silage during the winter, when dairy products are bringing the best price, and they will give a large steady flow of milk. The farmer who feeds silage gets the biggest profits because he is using the cheapest and greatest milk producing feed known.

IDEAL GREEN FEED SILOS

will pay for themselves during the first winter used. Any farmer who has fed silage will tell you that a silo is absolutely necessary in order to get profitable results from cows. Silage is just as good for beef cattle and sheep as it is for milk cows.

Only one kind of silage pays and that is GOOD silage. Good silage cannot be produced in a "cheap" make-shift silo. Remember, the crop you put in the silo is worth almost as much as the first cost of the silo. You might save a few dollars on the first cost, by buying a "cheap" silo, but you will lose many times that amount in poor silage.

It would be foolish to put \$160.00 worth of silage into a \$175.00 silo and lose \$75.00 worth of silage simply for the sake of saving a little on the first cost, when by paying \$25.00 more and getting a good silo, you could prevent the loss of \$75.00, not only once, but every year you use the silo.

There are good reasons why the Ideal will preserve the silage better and last longer than other silos. These reasons are fully explained and illustrated in our silo catalogue. Ask for a copy of our catalogue today.

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are headed by "Gainford Marquis" (imp.) Records prove that he is the greatest Shorthorn show and breeding bull in existence. Special offering: Eight bulls from 8 to 15 months. ELORA, ONT., G.T.R. & C.P.R.

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Two bulls, serviceable age, both good ones, and are offering females of all ages. Have some choice heifers bred to Clansman -87809-; also two mares in foal, 3 and 4 years old, and one 2-year-old filly. All from imp. stock. A. B. & T. W. DOUGLAS, Strathroy, Ont. L.-D. Phone.

Fletcher's Shorthorns

Our herd of pure Scotch Shorthorns (imp.) and from imp. stock is headed by the show bull Victor Stanford =95959- a winner in Toronto in 1914 and 1915. Former sires, Royal Bruce (imp.) =55038-, Benachie (imp.) =69954- and Joy of Morning (imp.) =32070-. Present offering, 3 choice young Scotch bred bulls, an "Orange Blossom", a "Roan Lady" and a "Mysie"; 3 choice breeding cows and some yearling heifers. L.-D. Phone, Erin Station, C.P.R.

10 Shorthorn Bulls

and 40 females. Shropshires and Cotswold ewes for sale at prices within the reach of all. JOHN MILLER, Ashburn, Ont. Myrtle Sta., C.P.R. & G.T.R.

Spruce Glen Shorthorns

When in want of Shorthorns visit our herd. We have 70 head to select from. Minas Fames, Miss Ramsdens, Florences, Emilys, etc. Many of them one and two-year-old heifers. Also several young bulls of breeding age—level, thick, mellow fellows, and bred just right. JAMES MCPHERSON & SONS, DUNDALK, ONT.

Shorthorns and Shropshires

With 125 head to select from, we can supply young cows in calf, heifers from calves up, and young bulls from 9 to 18 months of age, richly bred and well fleshed. In Shropshires we have a large number of ram and ewe lambs by a Toronto 1st-prize ram; high-class lot.

Oak Lodge Stock Farm

Shorthorn bull, 20 months old, bred from dam of milking strain. Two bulls, twelve months old. Will be sold at a price that will please customers. J. E. BRETHOUR & NEPHEWS, Burford, Ont.

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

Walnut-Grove Shorthorns

Sired by the great sire Trout Creek Wonder and out of imp. cows and their daughters of pure Scotch breeding and others Scotch topped. For sale are several extra nice young bulls and a few heifers. Let us know your wants. DUNCAN BROWN & SONS, R.M.D. Sheddon, Ont., P.M., & M.C.R.

Maple Shade Farm Shorthorns

The products of this herd have been in very strong demand. There's a reason. Can always supply a good young bull at a price which will make him well worth the money. Not many females for sale, but can show a few which should interest you. Brooklin, G.T.R., C.N.R. Myrtle. C.P.R. W. A. DRYDEN, Maple Shade Farm, Brooklin, Ont

Females SHORTHORNS Females

I can supply females of the most popular Scotch families, Crimson Flowers, Minas, Lady Fannys, Nonpareil, Butterflies, Amine, Athas, Miss Ramsdens, Marr Emmas, Marr Missies and Clarets. A few bulls. A. J. HOWDEN, COLUMBUS, ONT. Myrtle, C.P.R. & G.T.R. Oshawa, C.N.R.

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Here is a light weight, durable and comfortable working shoe specially suitable for farmers, woodsmen, millmen, trackmen, laborers—all who require extra strong, easy footwear for working in. We make them of the splendid oil-tanned Skowhegan water-proofed leather that has made

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famous for almost forty years. No need to suffer with tired, sore, aching, burning feet. Get a pair of these and find ease and comfort. If your dealer doesn't carry them, send us his name, enclosing \$3.25, and we will ship you a pair, all charges paid, to any address in Canada or U. S. Remit (stating size) by postal or express order. Same style as shown, 8 eyelets high, \$3.75. Write for catalogue E.

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Next Sailing from HALIFAX:
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Angus, Southdowns, Collies

Special this month:

Southdown Prize Rams

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Elm Park Aberdeen-Angus

"Glencarnock Victor," the grand champion steer at Chicago International Show. Was sired by Elm Park Ringleader 5th 106676. We have two full sisters to this great breeding bull in our herd also a number of half sisters that are producing the kind of bulls that will get the best kind of Aberdeen-Angus cattle. We have some bulls and females for sale at reasonable prices.

James Bowman, Box 14, Guelph, Ont.

The Glengore Angus We have still left a couple of nice yearling males sired by Middlebrook Prince 3rd for sale at reasonable prices. Particulars on application.
GEO. DAVIS & SONS, R.R. No. 1, Erin, Ont.

Tweedhill—Aberdeen-Angus. Choice young bulls of serviceable age; also females. If you want anything in this line, write:
James Sharp, R. R. 1, Terra Cotta, Ontario
Cheltenham, C. P. R., & G. T. R.

Beaver Hill Aberdeen Angus—Bulls fit for service. Females all ages. Cows with calves at foot. Prices reasonable.

ALEX. McKINNEY, R. R. No. 1, Erin, Ont.
Cheltenham, G. T. R., Erin, C. P. R.

Aberdeen Farm has for present offering some choice young Aberdeen-Angus stock, both sexes, prices reasonable.
J. W. Burt & Sons
R. R. No. 1, Hillsburg, Ontario

R. H. Harding, Thorndale, Ont.
Purebred stock located and purchased on order. 25 years' experience.

TERMS ON APPLICATION.

Shorthorns—Pail Fillers—Our Shorthorns are bred and developed for big milk production. If you want a stock bull bred that way, we have several; also Clyde, stallion rising 3, won 2nd at Guelph the other day in a big class. **P. Christie & Son, Manchester, Ont.**

Shorthorns bulls, females, reds, roans, size, quality. Breeding milkers over 40 years. Cows milking 50 lbs. a day. Big, fleshy cows that will nurse calves right. Prices easy, write:
Thomas Graham, R. R. 3, Port Perry, Ont.

Questions and Answers.

Miscellaneous.

Shorts for Pigs.

Is high-grade shorts at \$25.00 per ton a good economical feed for young pigs from six weeks old up to the age of four and a half months? Which would be the better way to feed shorts—wet or dry? Consider oats at 45 cents per bushel, barley at 60 cents.

J. W. D.

Ans.—Shorts make a splendid feed for young pigs, and, at the prices mentioned, would prove economical. Some feeders prefer mixing finely ground oats with the shorts, but pigs will do well on shorts and skim milk up to the time they are four months old. After that age heavier feeds should be added. Both methods have their advocates, but for young pigs it would appear that the shorts should be fed wet, although for older pigs it is doubtful which method gives most satisfactory results.

Lawful Fence—Outlet for Drain.

What is a lawful fence at present in Ontario? Is it supposed to hold sheep, pigs or calves? We have a railway fence through our property of about 1,500 yards that is seven strands high, three feet eleven inches from under wire to top wire. Our sheep run under the fence several places. Who would be responsible if any of our stock got killed?

We have a couple of tile drains which run to the public highway. Is the municipality supposed to give an outlet across the highway?

R. B.

Ans.—1. Each municipality has the power to set its own standard of fences. It would be advisable to consult the clerk of your township regarding this matter. If the stock get through the fence and are killed, we believe that the railway company would be responsible if they had previously been notified that the fence was out of repair.

2. If the public highway affords the natural outlet for the water, the municipality would give an outlet, but the person or persons directly benefited would be required to pay their share of construction and upkeep of the same.

Working a Farm on Shares.

A owns a farm and lets it on shares to B. A furnishes all the stock and implements. Who is supposed to buy repairs, such as plow-shares and cultivator teeth and pay for veterinary bills, taxes, clover seed, etc.? As B gets one-third for working the place, does he have to furnish all the meals for threshing? Who is supposed to furnish the churn, butter-bowls, etc., for making butter? Does A have to help pay for threshing and silo filling?

E. S.

Ans.—A properly-executed agreement covering all these points should have been drawn up at the outset. As we understand the agreement, A is to get two-thirds of the proceeds of the farm for his investment, while B is supposed to have one-third of the returns for his labor. B would be required to pay for and board any hired help he might require. As threshing partially comes under this, it would be expected that B board the men assisting in this work. Repairs, taxes and other expenses, as threshing and silo filling, should be paid by both A and B, according to their share of the returns. The same would apply to the equipment for making butter. A should pay two-thirds and B one-third of the cost.

Killing Willow Sprouts—Sweet Clover.

1. Is there any particular time of year to cut soft-maple, basswood or willow sprouts so as to kill them at the root?

2. If sweet clover and oats were sown in the spring would the clover attain sufficient growth to be of value for pasture this year?

3. What grasses would you recommend sowing with oats and sweet clover?

A. C. A.

Ans.—1. The time of cutting does not appear to have much effect on killing the roots. It is claimed that by boring a hole into the stump, filling it with salt and then plugging it, the sprouts will cease to grow.

2. No doubt but that there will be a certain amount of pasture, but it will depend somewhat on the season.

3. If sweet clover grows satisfactorily it is doubtful if it would be necessary to sow any of the grasses. The second year after seeding, sweet clover alone has given an abundance of feed. The grasses used for a permanent pasture would be more or less smothered by the sweet clover.

Users here state the FACTS!

Write for Illustrated Booklet explaining the reasons why

EMPIRE MECHANICAL MILKERS

are good for the Cows as well as for the owners.

Here are the written statements of some dairy farmers who have used the Empire Mechanical Milker long enough to be able to judge its effects on the cows:

From Chas. Bacon, Cooper, Ont.:

"The cows take it well and like it. Have had no garget nor cow pox whatever nor bad effects."

From C. W. Dracup, Harold, Ont.:

"I believe my cows are in better shape than by the hand milking. We haven't had a bit of cowpox as in other years, and I believe the machine has been responsible in preventing it. . . . They seem to like it; in fact I have known them to bawl to be milked."

From John Detlor, Stirling, Ont.:

"We find our cattle prefer it to hand milking, and their flow has actually increased."

From Aaron Wagler, Baden, Ont.:

"My cattle like the milker in preference to hand milking."

From J. T. Prescott, Sussex, N. B.:

"We have milked 37 cows in 40 minutes with two double units, . . . and the cows' teats are in better condition than ever."

From M. C. W. Kay, Sussex, N. B.:

"All the cows that had sore teats before using the machine are now all right."

From Geo. Willison, Woodstock, Ont.:

"The cows take to it well."

From M. G. Ransford, Clinton, Ont.:

"It has proven perfectly harmless to the cows; in fact many have increased in production of milk."

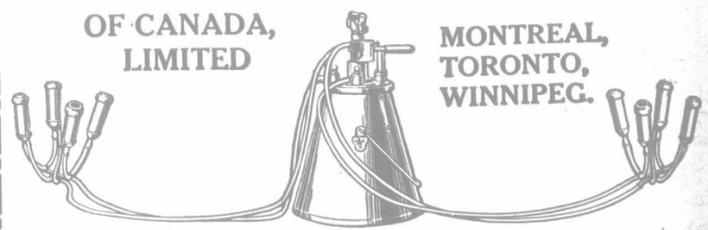
These are only extracts from a few of the scores of letters from purchasers which tell enthusiastically how the Empire Mechanical Milker saves time—cuts down expenses—improves the quality of the milk—increases profits—and solves the problem of hired help.

Our new Illustrated Booklet explains how the Empire Mechanical Milker duplicates the natural action of the sucking calf, and is actually better for the cows than hand milking. Fill in the coupon below and we'll send you a Booklet by return mail.

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Twenty Imported Bulls

These imported bulls, along with 10 home-bred bulls, may now be seen at our farms. There are some choice ones among them. We also imported four cows and a heifer, all of which are forward in calf. An invitation is extended to anyone interested in this class of stock to visit us at any time. Correspondence will receive our most careful attention.

Burlington Jct., G.T.R.

Burlington Phone or Telegraph.

J. A. & H. M. PETTIT
FREEMAN, ONT.

Robert Miller Still Pays the Freight—And he is offering in Shorthorns some of the best young bulls and heifers that can be produced. Young bulls fit for service. They are of the best Scotch families, and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to improve any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years and still it grows. There is a reason.
ROBERT MILLER, Stouffville, Ontario

SHORTHORNS

SHROPSHIRE

CLYDESDALES

Have still on hand one bull fit for service by Newton

Sort=93019. Some good young things coming along.

A few young cows and heifers. Come and see them.

2 1/2 miles from Brooklin, G.T.R. 4 miles from Myrtle, C.P.R. 4 miles from Brooklin, C.N.R.

OAKLAND-48 SHORTHORNS

Present offering is one choice red bull, 30 months old, price \$175; also three about seven months old. A few cows with calves at foot and bred again and some fine heifers bred. All registered and priced to live and let live.

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WM. D. DYER,

OSHAWA ONTARIO

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HENSALL, ONT.

The flax crop prominence in account of the Europe. Fort world's supply was produced. As a result of shrinkage in during the year have more than year and spent concerned for material.

From the domestic flax has St. Lawrence and spun into years, however popular with that it is part of Scientific investigation this the surface of draws heavily food of the soil. An average cow not take as much the soil as an rooted cereals barley. This beyond a doubt carried on at Farm, Ottawa.

Farmers want more attention. Prices now for fibre straw crop. In no agrees to harvesting the tend to relieve confronted where no mills grown with an Linen mills in ing as high as 1 Canadian station. It is all the flax gro mills.

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Good I On another ed the Clyde (imp.) [9596] clean-limbed He is royally Baron O'Bus Pride. His d Royal Gartyly is bred in the by Smith & Ont., and has years where choice foals. Berry, Hensal his stables t He stood first when rising 3 at Toronto N 1913. He wa same year in won three first and a second sound and rig his district. at his stables and the big s Glory (17846)

TOP dress all your crops with Nitrate of Soda alone, no matter what other fertilizers you may have used. 100 pounds to the acre for seeded, and 200 pounds to the acre for cultivated crops will do the work. The increase will yield large profit over the cost.

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From heavy-milking, high-testing, unregistered cows, and sired by the great show bull, Sir C. Anthea, \$15 each. Registered heifer calves, with certificate, \$35 each. An extra choice bull calf for sale, calved February 9th, from imported dam, with yearly record of 19,000 lbs. Price only \$40.

CHOICE SELECTED SEED CORN
Wisconsin No. 7, the best Dent corn in the world. Germination test 95 per cent. and over. \$2.25 per bushel. Bags free.

GLENORO STOCK FARM
Rodney Ontario

Walnut Grove Holsteins

Herd headed by May Echo Champion, full broths of May Echo Sylvia, who made 36 lbs. butter in seven days. Females for sale from one year old upwards. Prices right for quick sale.

C.R. JAMES, Langstaff P. O., Ontario
Phone Thornhill

19 BULLS--HOLSTEINS

From 18 months down. Grandsons of "King Fayne Segis" "King Segis Pontiac," "Rag Apple Korndyke 8th"—the best of the breed. Write us giving particulars as to your requirements.

R. M. Holby, R.R. 4, Port Perry, Ont.

Lyndenwood Holsteins

Present Offering: 1 yearling bull from a 22 lb two-year-old, sired by a son of a 29 lb four-year-old; 3 bull calves from high-testing dams, also a few choice young cows and heifers.

W. J. BAILEY, Jarvis, Ont.

BULLS, BULLS. We have several young Holstein Bulls for sale just ready for service. Sired by the Great Bull King Segis Pontiac Duplicate, and our Junior Herd Bull, Pontiac Hengerveld Dietertie and Lion H. G. Testing Dams. Prices low for the quality. Write and get them. Manchester, G.T.R. and Myers C.P.R. stations. Bell Phone.

R. W. Walker & Sons, R.R. 4, Port Perry, Ont.

Alderley Edge Ayrshires
Two yearling bulls sired by Lakeside Day Star (Mortons Main Planet). Write for description.
R. KENNEDY KNOWLTON, QUE.

Questions and Answers. Miscellaneous.

Linseed Meal for Calves.

Which is better to feed with skim-milk for young calves, cotton-seed meal or linseed meal? Should it be fed cooked or raw?

A. L. G.

Ans.—Linseed meal is used in preference to cottonseed meal for young calves. It may be fed either way, although making the meal into a jelly with hot water and then adding it to the milk is the customary way of feeding it. After the calves are three or four months old, feeding the meal dry along with other concentrates will probably give as satisfactory results as giving it in the milk.

A Siphon to Draw the Water.

I have a well on a side hill and I want to pipe the water twenty rods. The outlet will be lower than the bottom of the well.

1. Does a siphon work satisfactorily?
2. Kindly explain to me how to put in the system and how to have it fixed to get the pipe filled with water to start it from time to time in case it stops.
3. Can you direct me to anyone who has a system of this kind working satisfactorily?

Ans.—1. If there is no leak in the pipe and the outlet is below the source of supply the water should continue to flow satisfactorily once it is started.

2. The principle is to have the delivery pipe longer and the outlet lower than the pipe in the well. All joints in the pipe must be air-tight. The pipe is filled with water to start with and when the water starts flowing from the delivery pipe it tends to cause a vacuum which draws the water from the source, and water should continue to flow so long as the supply lasts and the pipes are air-tight. A suction pump may be used for filling the pipes to start the system working, or a pipe supplied with a stopcock may be attached to the highest point in the system and can be used for filling the pipes with water. The attachments would have to be air-tight and air prevented from entering the pipe at time it was being filled with water.

3. We cannot recollect just at present where this system is being used.

Building a Silo.

We have a cement cistern 7 by 7 by 8 feet with a 11 inch wall above ground and 12 inch wall below ground. The foundation is built on solid rock and sheltered from the North winds. It gives perfect satisfaction. As we need a silo, we would like to convert this into one it would save the hay. How much seed and land would it take to grow enough corn to fill it? How much silage would that be?

2. How many yards are there in one-twentieth of an acre?
3. Holstein cow had lice during the winter and since then there is small sores on the neck and shoulders they seem irritating. I have been using oil and boracic acid. What is the cause and what should I do?

Ans.—1. A silo of the dimensions mentioned would hardly be practicable, as there would not be sufficient depth to secure weight enough to make good silage. The walls would be strong enough and by adding 12 feet of either concrete or matched lumber to the 8 feet of cistern wall you would have a more suitable silo. The corners should be rounded. Concrete could be used for this purpose. After the silo is filled the corn settles considerably. In order to have good silage the corn must go in firmly and air must be excluded. Wherever air gains access the silage spoils. A silo 7 feet in diameter and 20 feet deep would hold about 15 tons of silage. The number of acres of corn required to fill a silo of these dimensions would depend on the crop. The corn that would grow on about two acres should be sufficient. The amount of seed depends on the method of seeding. If sown in hills 12 inches apart about one peck per acre would be sufficient and two pecks if sown in drills.

2. In one-twentieth of an acre there are 242 square yards.

3. The sores were possibly caused by the cow rubbing against the stanchion or stall partitions. Boracic acid is a very good antiseptic. After using it the sores should be dressed with some healing lotion or carbolyzed oil.

DISPERSION SALE OF 36 Head of Pure-bred Holstein Cattle

Mr. C. C. Kettle, of Wilsonville, Ont., will sell by public auction, his entire herd of show-ring and high-producing Holsteins on

TUESDAY, MAY 2nd, 1916

Included in this offering are several first prize winners at London in 1915, and several have been prize-winners at Toronto Exhibitions. The cattle offered are all young, bred in the purple and in the pink of condition. This herd consists of descendants of such sires as Starlight Schuiling De Kol, Grace Fayne 2nd, Sir Mercena, Fairview Mercedes Korndyke and Ourville Colantha Sir Abbecker.

Trains will be met at Vanessa Station, T. H. & B. R. on day of sale. Connections made at Waterford, M. C. R. and G. T. R. at Brantford. Catalogues ready on April 20th.

COL. WILBY ALMAS, Auctioneer **L. H. LIPSIT, Manager** **C. C. Kettle, Prop.**

OAK PARK STOCK FARM

CHOICE HOLSTEIN-FRIESIANS

Senior herd sire, Lakeview Dutchland Hengerveld 2nd, 1st prize 2-year-old, Canadian National Exhibition, 1915, 3/4 sister is Lakeview Dutchland Artis, Canadian Champion Sr. 3-year-old, with 24,000 lbs. butter 7 days. His sire's full sister, world's champion sr. 2-year-old, with 22,645 lbs. milk in yearly work. Young bulls for sale out of R.O.M. dams. Prices and extended pedigrees on application. Phone Brantford 1102. Electric car line stops at farm. Visitors welcome.

W. G. BAILEY, PROP.

R. R. NO. 4 PARIS, ONT., CAN.

King Segis Pontiac Paul 15940

WE have for sale a few sons of the above bull, ready for service, and whose dams are large, heavy producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices. Correspondence solicited.

Also Berkshire and Yorkshire Swine

Larkin Farms

Queenston Ontario

Lynden Farm Holsteins

The home of Plus Pontiac Artis, the champion 3-year-old in R.O.P. work with 21,000 lbs. milk, 880 lbs. butter one year, 30.85 lbs. butter 7 days at 4 years old, the only cow in Canada to produce 20,000 lbs. milk in 1 year, and to make over 30 lbs. butter in one week at next freshening. We are offering Plus Inka Artis, champion bull at Guelph, from same dam as above cow. He is a brother to May Echo Sylvia, 36.33, on sire's side. Also King Korndyke Evergreen, sired by son of Plus Pontiac Artis. He has 7 dams in pedigree over 20,000 lbs. milk each in one year. Also a few bred young females. Write for prices, or come and see them.

Bell Phone.

S. LEMON & SONS, Lynden, Ont.

HOLSTEIN CATTLE

The only herd in America that has two sires in service whose dams average 119 lbs. milk a day and over 35 lbs. butter a week. Cows that will give 100 lbs. milk a day are what we are trying to breed. At present we have more of them than any other herd in Canada. We can supply foundation stock of this breeding. Visitors always welcome. Long-distance Phone.

D. G. FLATT & SON, R. R. 2, Hamilton, Ont.

HOSPITAL FOR INSANE, Hamilton, Ont. For Sale—HOLSTEIN BULLS varying in age from 1 to 11 months, from Record of Performance or Record of Merit dams and the grand bulls Sir Korndyke Wayne Dekol, grandson of Pontiac Korndyke, or Lakeview Dutchland Le Strange, a grandson of Count Hengerveld Fayne Dekol. Prices right. APPLY TO SUPERINTENDENT.

Lakeview Farm, Bronte, Ont. Offer for sale, sons and grandsons of 100-lb. cows; one is out of a 24.50 lb. 3-year-old daughter of Lakeview Rattler's 28.20 lbs., the latest Canadian champion 30-day butter cow 8 months after calving, and is half brother to L. D. Artis, 34.66-lb Canadian champion senior 3-yr-old. Terms to suit purchasers. **MAJOR E. F. OSLER, Prop.** T. A. DAWSON, Mgr.

Clover Bar Holsteins My special offering just now are some choice young bulls Ormsby, whose dam has 3 30-lb. sisters, and a 24-lb. 4-year-old and a 21.06-lb. 3-year-old daughter and his sire was the great Sir Admiral Ormsby. Also a few females.
PETER SMITH, R.R. No. 3, Stratford, Ont. Stratford or Sebringville Stations.

QUEEN CITY HOLSTEINS
Present Offering is 10 young bulls, from 6 to 14 months of age, the records of whose dams, sire's dam and her full sister, range from 28 to 32 lbs. They are sons of King Lyons Hengerveld Segis.
R. F. HICKS Newtonbrook, Ont. On T. & Y. Railroad Line

EVERGREEN STOCK FARM—REGISTERED HOLSTEINS
Present offering: Several bull and heifer calves; also a few yearling heifers bred and ready to breed. Write for prices and descriptions. Bell phone.
A. E. HULET NORWICH, ONTARIO

Dumfries Farm Holsteins—Think this over—we have 175 head of Holsteins 50 cows milking, 25 heifers due to calve in the fall, and 2 heifers from calves up to 2 years, as well as a dozen yearling bulls, and anything you may select is for sale. Breeding and individuality the very best.
S. G. & ERLE KITCHEN, St. George, Ontario

Pioneer Farm Holstein Herd Has only one ready for service son of Canary Hartog, whose three near dams, one of these at 10 years old, average 30 lbs. butter in 7 days, and 108 lbs. milk in one day. This fellow, 34 white, is a handsome son of 1 baby snow Medthilde 2nd a 22.86 lb. fr. 3-year-old daughter of Prince Angie Mechthilde, who has 7 or 2 year old daughters averaging 14,800 lbs. milk in R. O. P.
WALBURN RIVERS, R. R. No. 5, INGERSOLL, ONT. Phone 343 L, Ingersoll Independent.

For Sale Only three bull calves from our senior herd sire and a few from the junior herd sire left. In these is combined some of the richest testing blood of the breed. Also females of all ages, 75 or 80 head from which to choose.
M. L. Haley, & M. H. Haley, Springford, Ont.

Fairview Stock Farm offers for sale two young Holstein bulls, sired by Schuiling Posch Prince whose dam and sire's dam have 27 1/2 lbs. butter-fat to their credit in a seven-day test. One bull is 16 months old the other 4 months old, and out of a Record of Merit cow. Prices right.
W. T. WHALE & SONS, Goldstone, Ont.

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For this small sum you can own this wonderful Ditcher and Grader—a necessity on every farm—it will clean out your ditches—run the water off your low lands—dig your tile drains to 2 or 3 feet. It will do in one day the work of 50 men with picks and shovels. It pays for itself with its first day's work.

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JERSEY BULL

3 best sure breeder and a splendid animal. Price low.
 M. G. RANSFORD, CLINTON, ONT.

Jerseys for Sale—I am offering two very fine Jersey bulls, age 10 and 12 months, also heifer calves from imp. sire and high-testing dams. To prevent inbreeding will sell my stock bull, De La Roche Duke (imp.). Prices right.
 CHAS. E. ROGERS, Ingersoll, Ont.

Questions and Answers.
 Miscellaneous.

Roots Versus Silage for Steers—Arch for Bridge.

1. What is the relative feeding value of good mangels and good silage, pound for pound? Would it pay, when feeding fifty or sixty big steers, to feed roots with silage, when the main bulk of the feed is good silage?

2. What arch would be necessary in a fifty-foot span of a concrete bridge, in order to carry a load of twenty thousand pounds? W. L. C.

Ans.—1. The average percentage composition of mangels is 90.6 of water; 1 of ash; 1.4 of crude protein; .8 of fibre; 6.1 carbohydrates, and .1 of fat. Silage from mature corn averages 73% water; 1.7% ash; 2.1% crude protein; 6.3% fibre; 15.4% carbohydrates, and .8% fat. Silage from immature corn averages a little lower in these constituents. The digestibility of mangels is a little higher than that of silage. In feeding experiments silage gives a trifle higher value, pound for pound, than does roots, due possibly to the larger percentage of dry matter. It is possibly a little more expensive growing roots than corn, but roots add variety to the ration, and we believe it would pay to feed them.

Ans.—2. It would be advisable to consult a bridge builder in regard to arch, footing and strength of cement for a bridge of the width mentioned.

Feed For Horse—Value of Molasses Meal.

Some time ago I wrote The "Advocate" enquiring about certain things and every one of the answers have either been put to practical use or soon will be. I have a few more questions I would be very pleased to have answered.

1. What is a good ration through the summer for working horses that are on grass at night?

2. Are mangels better feed than sugar beets for cows during winter?

3. Has molasses meal any feeding value for horses, cattle, etc.?

4. What is a summer ration for hens?

5. What is the best method of setting hens? How many eggs to a hen? M. M.

Ans.—1. Good quality oats and hay are the feeds preferred. A hard-worked horse should receive daily a little over one-quart of oats for every 100 pounds of weight. When the work is decreased feed lighter on grain. Only a small quantity of hay should be fed morning and noon but more at night. Too often the grass is considered to be sufficient feed for night and morning. Whether the horse is on grass at night or not he should be fed his allowance of grain and given a little time for eating hay. Feeding and watering must be done regularly. Thorough grooming to keep the pores of the skin open is also essential in order to keep the horse in good condition.

2. There is very little difference in the feeding value of the two roots.

3. Yes. It also has a laxative effect and appears to act as a tonic. When molasses meal is fed there is claimed to be less danger from digestive troubles. It is sometimes used in fitting horses.

4. If fowl are allowed free range they require very little attention during the summer. They are usually able to gather all the green feed, meat feed, grit and oyster shell that they require, and only need to be supplied with clean water and grain. A handful daily of a mixture of wheat, oats and barley should prove satisfactory for the grain ration. If the birds are not on free range the other feeds mentioned should be fed, and free access given to a dust bath.

5. Hens should be set where they will not be molested by other fowl. By moving them at night they will usually take to a new nest quite readily. The nest can be made by putting straw and chaff in a box and placing it where desired. The hen should be thoroughly dusted with insect powder before being set. The number of eggs depends on the size of the hen. Thirteen or fifteen is the usual number. It is a good plan to set two or three at the same time so that there will be a number of chicks about the same size.

The "Mutual" Idea



What way does a Mutual Life Insurance Company such as The Mutual of Canada differ from others?

It differs from them in having no private capital upon which shareholders are paid dividends.

A mutual company is an association of policyholders carrying on the business of old line, legal reserve insurance at the lowest cost consistent with absolute security.

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There is only one such Company incorporated in Canada. This Company began business in 1870, so that it is now in its 47th year, and one of the strongest financial institutions in the Dominion. It is known as "Canada's Only Mutual."

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 that makes no difference if you use Campbell's Varnish Stain on your floors and woodwork. It dissolves grease spots—wipes them out. The illustration shows a greasy board, and beside it a picture of the same board after Campbell's Varnish Stain has been used. The grease spots are gone.

It comes in a yellow can with the famous camel picture on it. Sold everywhere. Ask your dealer for

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There are 13 colors: Natural wood color, light oak, dark oak, walnut, cherry, mahogany, green, rosewood, white enamel, flat black, gloss black, piazza green and piazza red. Sold by reliable dealers everywhere. If your dealer cannot supply you

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 Mr. Ekin Wallick, contributor to the Ladies' Home Journal, and a national authority on home-decoration, has written a charming and instructive book, "The Attractive Home." He tells all about rugs, lighting, pictures, furniture and how to make an attractive home at small expense. (Regular price, \$1.00. For forty-five (45) cents in stamps we will send you this book postpaid, and a half-pint can of Campbell's Varnish Stain, price 30 cents, \$1.30 worth for 5 cents. Write today and give name of nearest paint dealer or decorator.

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GLADDEN HILL AYRSHIRES Some choice bulls of breeding age from record cows. Bull calves sired by Fairview Milkman, a son of Milkmaid 7th, Canada's Champion Record of Performance cow, for sale. Also a few females.
 LAURIE BROS, Agincourt, Ont.

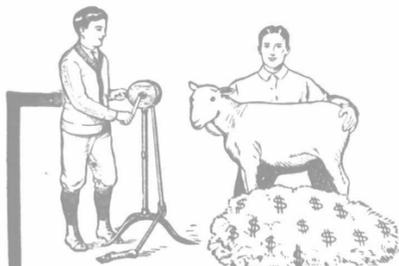
Glenhurst Ayrshires For 50 years I have been breeding the great Flos tribe of Ayrshires, dozens of them have been 60-lb. cows; I have lots of them get 60 lbs. a day on twice a day milking. Young bulls 1 to 10 months of age, females all ages. If this kind of production appeals to you write me.
James Benning, Williamstown, Ont.

Stonehouse Ayrshires Are a combination of show-yard and utility type seldom seen in any one herd. A few choice young males and females for sale. Write or phone your wants to Stonehouse before purchasing elsewhere.
Hector Gordon, Howick, Que.

AYRSHIRES 1 bull fit for service; a prize winner. Dam twice first at Toronto, qualified in R.O.P. with good record, Jan. 1916. Calves of best breeding, special prices. Females all ages. Write for prices to-day.
 Orders solicited for Yorkshire, Feb. pigs. R. 3.
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Brampton Jerseys We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show-ring.
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THE WOODVIEW FARM JERSEYS Canada's Most Beautiful Jersey Herd—Half the herd imported from the Island of Jersey. Several cows in the Record of Merit and others now under official test. Some very choice stock for sale. When writing, state distinctly what you desire, or, better still, come and see them. Farm just outside city limits. We work our show cows and show our work cows.
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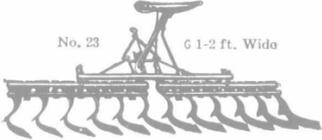
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No. 23 6-12 ft. Wide

The Bateman-Wilkinson Co., Ltd. 500 Symington Ave. Toronto, Ont.

Tower Farm Oxford Sheep. Champion flock of Canada. Choice shearing rams and ewes, also ram and ewe lambs, bred from imported and prize-winning stock. See winning at Toronto and Ottawa. Erin or Ellsborough Stations. Long-distance Phone. **E. BARBOUR, R. R. 2, Hillsburgh, Ontario**

CLEARVIEW CHESTER WHITES For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from winners and champions. **D. DeCoursey, R. R. No. 5, Mitchell, Ont.**

Pine Grove Yorkshires—Bred from prize winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction. **Joseph Featherston & Son, Streetsville, Ont.**

Townline Tamworths We can supply young Tamworths of both sexes and any desired age of superior quality. Also Leicester Rams and Ewe lambs, Pekin ducks, Langshan cockerels and pullets. Write us your wants. **T. Readman & Son, Streetsville, Ont. R. M. D.**

Lakeview Yorkshires If you want a stock boar of the greatest strain of the breed, (Cinderella) bred from prize-winners for generations back, write me. Young pigs of all ages. **JOHN DUCK, Port Credit, Ontario**

Morrison Tamworths and Shorthorns, bred from the prize-winning herds of England. Choice Tamworths of both sexes, all ages. £10 head to choice Friesian, Choice Shorthorns. 3 extra fine two-year-old calves, 8 months of L. lambs, also cow and calf of the best milk, on st. in **CHAS. GRIFF, Morrison, Ont.**

INGLWOOD CHESTER WHITES We now have for sale a lot of young pigs, all of sex, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction. **L. WILSON McPHERSON & SONS, St. Ann's, Ont.**

TAMWORTHS

Young sows bred for August farrow and some nice young boys. Write **JOHN W. TODD R.R. No. 1 CORINTH, ONT.**

Questions and Answers. Miscellaneous.

Sheep Shearing Machine.

Does shearing a sheep with a power clipper injure the wool for the following year? I have a large flock and would like to know if the machine proves satisfactory. **G. B. F.**

Ans.—The power clippers are used by many sheep owners, and we have never heard complaints of the wool being injured when the work is carefully done.

Sawdust For Bedding.

If sawdust is used for bedding, will the soil to which the manure is applied be injured? I have been informed that sawdust is harmful to soil. **G. S.**

Ans.—We think not. Sawdust used as bedding absorbs and retains manure liquid, but it does not add humus to a soil to the extent that straw does. On heavy clay, sawdust in itself may be beneficial in opening up the particles of soil, but in light soils an application of a large quantity of sawdust might be a disadvantage by keeping the soil too open.

Cow Gives Thick Milk.

A year ago this spring we bought a cow, due to freshen Nov. 1. They told us she was used to being milked up to about six weeks before freshening. About three months before her time her milk came in lumps. We milked her for a while, thinking it would get all right, but it didn't, so we dried her up. When she freshened again she did well and we saw nothing of the trouble for two or three months, then one-quarter of her udder went the same way again. It would last about three milkings and would get all right. This occurred two or three different times. The first we notice it, is in the strainer or separator. Would you kindly let us know if the milk is good for use between times? What is the cause and also the cure, if any? She is a good cow, and we would not like to part with her. **J. W. D.**

Ans.—The thick or stringy milk is possibly due to abnormal changes in the milk which frequently accompany an inflamed udder. The inflammation may be caused by an injury or may appear without any appreciable cause. If the affected quarter is swollen, bathe with hot water and vinegar, then rub twice daily with goose grease and spirits of turpentine. Give the cow a purgative of 1½ lbs. Epsom salts, and follow up with a teaspoonful of salt-petre in a pint of water as a drench daily for a week. The milk should be all right for use when it appears normal.

Action of Lime on Soil—Skim milk for Horses.

1. Would you advise growing a few carrots in place of turnips for the horses, or would it be justifiable?
2. Please explain action of lime on soil when applied in different forms; as, air slaked, ground limestone, etc.
3. We have an excess of skim-milk. Would it do to feed it to horses? Have experiments ever been tried on this feed?
4. Where could I get the book Farm Management by G. F. Warren?

Ans.—1. Carrots are very much relished by horses, and are given the preference over turnips by most horsemen. Carrots are more expensive to grow than turnips, but a few rows would be sufficient to supply the horses throughout the winter.

2. Lime applied in the different forms has the effect of neutralizing the acidity of the soil, makes clay soil more open, and also acts as a stimulant. Some forms of lime are quicker acting than others. The value of lime is fully discussed in an article by Prof. Hartsourt in January 13 issue.

3. We have known skim-milk to be fed to horses, and they appeared to do well on it. We do not know of any experiments having been conducted to determine the value of skim-milk as a horse feed.

4. The book "Farm Management," by Warren, may be secured through this office for \$1.95, post paid.

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from the day they were weaned. Gardiner's Pig Meal with skim or separated milk is the best possible substitute for mothers' milk. It suits the digestion of the little pigs, and carries them over the weaning period and up to the fattening-off stage without a hitch in their growth.

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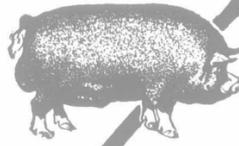
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