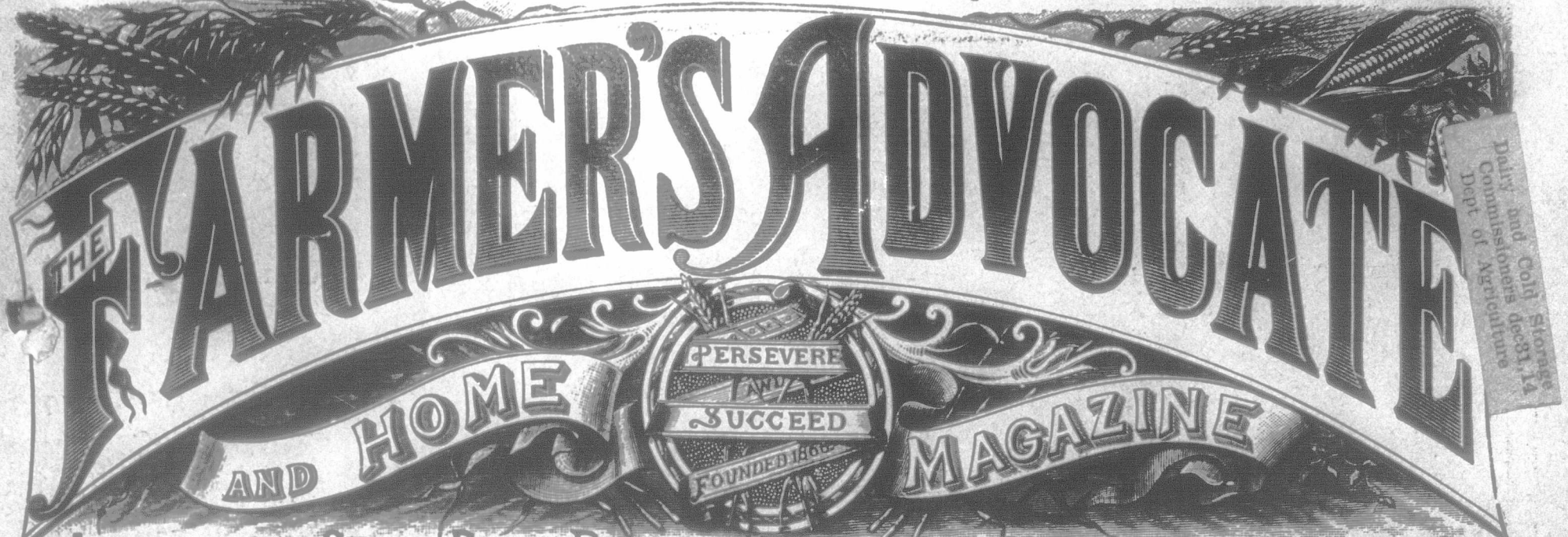


Dr. Maria Montessori

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VOL. XLIX.

LONDON, ONTARIO, FEBRUARY 5, 1914.

No. 1115

Convincing to Ladies— This Oven Test!

So that you may use less flour, we do what a home cook would do if she were in our place.

From every shipment of wheat delivered at our mills we take a ten-pound sample. We grind this into flour. Bread is baked from the flour.

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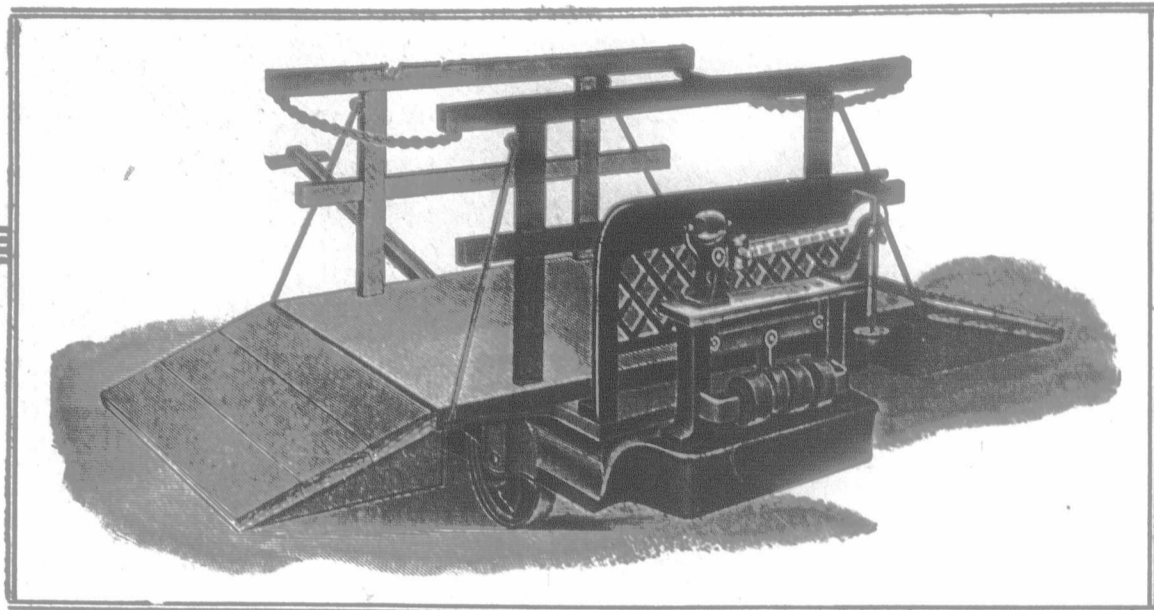
We find that some samples make more bread and better bread than others. So we keep the shipment from which the more and better bread comes. The others we sell.

You save money by using that bears this name. And you get better bread.

FLOUR

521

“More Bread and Better Bread”
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 The only scale that will weigh correctly on an uneven surface.
 The wheels are large and encased.
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 Capacity of this scale, 2,000 lbs.
 Size of platform without rack, 24"x36".

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 State if married couples, families or single persons wanted, also if experienced, partly experienced or inexperienced help required.
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 Requisitions received before middle February will receive prompt attention.
 Passages can be prepaid.
 No charge made for securing help.

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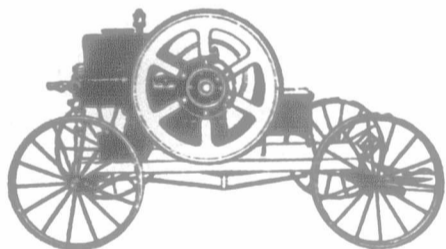
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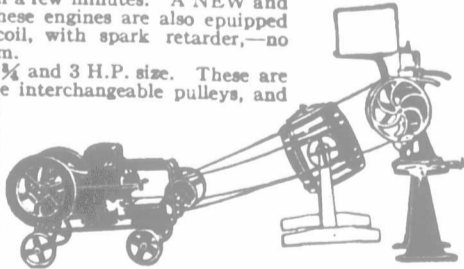
MORE VALUE, MORE POWER, MORE SERVICE, MORE SATISFACTION.

Does SERVICE, SAFETY and SATISFACTION mean nothing to you? Does money saved in repairs and expense bills, time, equipment, etc., mean anything to you? Get Gilson Facts and find out how the Gilson 60-speed and 100% Service Engines do the greatest variety of work—give the maximum satisfaction—are trouble proof and fool proof. Their scientific design makes them absolutely safe—they are approved by the National Board of Fire Underwriters; no insurance troubles.

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Butter and Eggs



FIG. 1

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FIG. 2

ARE SAFE, SANITARY and ECONOMICAL For Every Purpose

Fig. 1.—Our patent, self-locking egg carton.
 Fig. 2.—Knock-down egg carton with cushion division.
 Fig. 3.—Butter carton to hold one pound paraffined.



FIG. 3

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—gives a bright, powerful light instantly,—just press the button. Compact, handy and safe. Four times as strong as any other and can be recharged for a trifle. Can't explode. The baby can handle it. Safe in a powder keg.

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For every cent you spend for seeds this spring you expect to reap dollars next fall.

If these fail you, you lose not only the cents you pay for them, but the dollars you should get in crops. You lose the labor, time and use of land in which you plant them.

That's why it is so important to get seeds that are tested and proven.

Carter's Tested Seeds are really tested by actual growing on the famous trial and testing grounds of James Carter & Co. at Raynes Park, London, Eng'and. They are tested for purity, germination, quality and production. At the same time other brands are tested alongside them to make certain that Carter's are superior.

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Write to-day for a copy of the new Carter Catalogue of flowers and vegetables with all prices in American currency.

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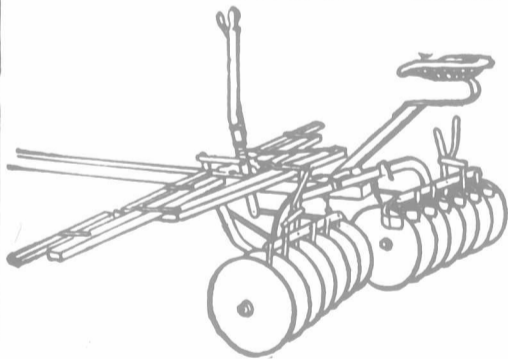
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Carter's Tested Seeds



The "Bissell" has the capacity



Because of its capacity, time after time the "Bissell" Disk Harrow has done **DOUBLE THE WORK** in field competition against all competitors, under the same conditions.

The special shape of the "Bissell" plates cause them to enter the ground naturally and **TURN THE SOIL EASILY**. Steel scraper blades meet the

Disk Plates chisel fashion and keep the plates clean of trash by movable clod irons—the only Harrow that has this feature.

Anti-friction balls (40) are used in the bearings, on every "Bissell" Disk.

The seat is placed back on the Harrow so that the weight of the driver when riding balances over the frame and **REMOVES NECK WEIGHT**. The hitch is well back, **MAKING LIGHT DRAUGHT**.

Search the Continent over and you will not find a Harrow with such cutting capacity, easy draught and correct proportions as the "Bissell." A postcard to Dept. W will bring you a free catalogue.

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A barn wrongly planned will lose money for you every day.

The wrong design of framing, inconvenient arrangement of feed bins and feed rooms, incorrect placing of carrier tracking, or the wrong location of posts may compel you to take more steps, do more work, and pay out more money for help each day throughout the life of the barn.

One window left out—a silo in the wrong place—a door that is not right—a poor arrangement of stalls—poor system of ventilation—mistakes in sizes of cattle-stand, gutters or passages—all these mistakes are costly.

But all these items are right in a barn planned by experts who know dairy barn needs down to the smallest detail.

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Beatty Bros. have made a careful study of barns for years, have planned hundreds of the finest and most successful in the country.

Beatty plans represent all the biggest and best ideas in all the best barns built in every section of this country. In all the barns we design we incorporate the most valuable suggestions obtained from the

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Our knowledge of good barns covers everything, from construction and equipment to lighting, ventilation, location, drainage, etc.

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A service that will help you much is absolutely free to you. You have the benefit of our wide experience without cost, and we will appreciate a letter telling just what your own ideas are, when you expect to build, how many cows you will take care of, etc.

Your letter, postal card, or the signed coupon, will be personally answered, and every question you ask will be given most careful attention.

We'll send you floor plans, with all the dimensions carefully marked, and incorporating any suggestions we have for the improvement of your layout.

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Get your plans made now—while your time is not taken up with other work—while you can give the proposition the thought and consideration it deserves.

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Have everything decided upon, so that you can get your timber cut and out while sleighing is good.

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When you can have a good barn at a cost no greater than probably some of your own neighbors have paid for poorly-planned ones, why not have it?

Write to-day—and learn what Beatty Bros. can and will do for you. If you will fill out the coupon we'll send you a valuable book, "How to Build a Dairy Barn," that shows you how to frame the barn at half the cost of usual methods, how to lay cement floors and walls.

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I expect to build in 1914, about.....

I want to take care of.....cows.....

Would like you to send me also, following free books I have marked..... No. 21, about BT Galvanized Steel Stalls (.....) No. 22, about BT Manure Carriers.

Name.....

P.O..... Prov.....

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Butter Triumphs as Usual at the NATIONAL DAIRY SHOW

BUTTER made from cream separated by De Laval Separators made the usual clean sweep of all highest awards at the great 1913 Chicago National Dairy Show and Annual Convention of the National Butter-makers' Association, just as it has always done every year since the organization of the National Association in 1892.

Whole Milk Creamery Butter

The highest score in this class was awarded to O. N. Peterson, of Rapidan, Minn., a De Laval user, as were 187 out of 200 whole milk creamery entries.

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The highest score in the gathered cream factory-made butter class was given R. O. Brye, of the Readstown Creamery Co., Readstown, Wis., this prize-winning butter being made from the cream of farm patrons all using De Laval Cream Separators.

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The evidence of the superiority of De Laval cream and butter, demonstrated by the winning of all highest awards the world over for thirty years, is so overwhelming as to be indisputable and unanswerable. A De Laval catalog, to be had for the asking, will make plain the reasons for it.

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I keep _____ cows. I sell cream, make butter, sell milk (which?) _____ The make of my Separator is _____, used _____ years.

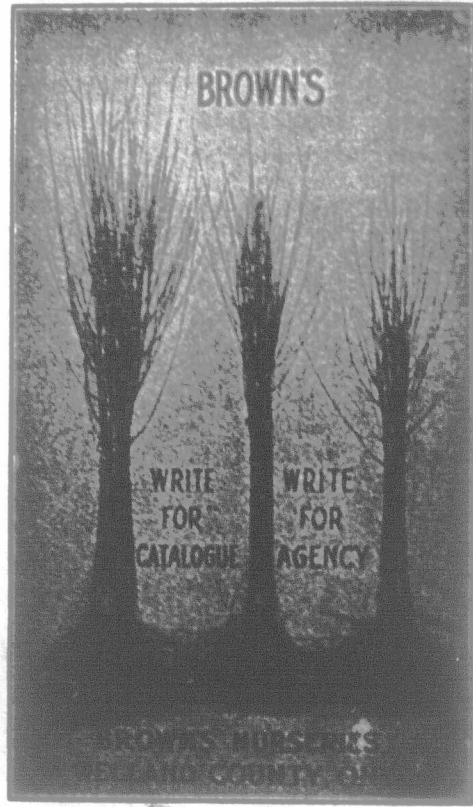
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The Farmer's Advocate and Home Magazine
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Brown's Nursery
Ontario
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Are famous because of these two points.

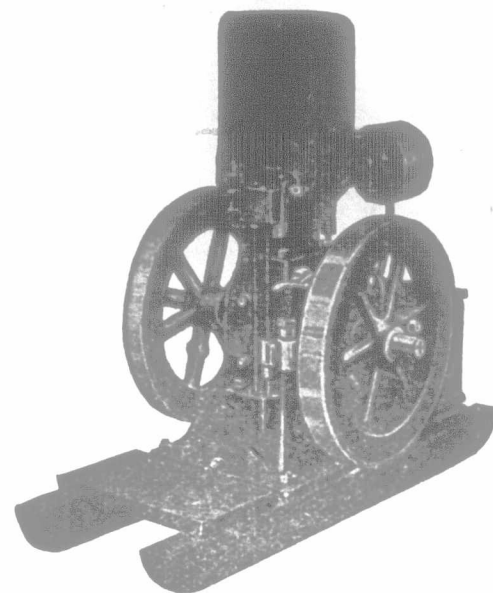
If you have land suitable for fruit or ornamental trees, send in your list for prices.

**Peach, Apple, Plum and Cherry
Trees are our largest
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say so. Who is a better judge than yourself, at your own work? Let one prove it to you. It is "your right" and "our pleasure."

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Horizontal single cylinder and double opposed, 10 to 50 h.-p., and all kinds of outfits.

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12 and 16 Gauge
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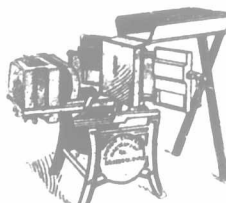
The *Marlin*

hammerless repeating shotgun is a fine-appearing, beautifully-balanced gun, without any objectionable lumps or bumps; no holes on top for gas to blow out through or water to get in; can't freeze up with rain, snow or sleet; its solid steel breech (not a shell of wood) permits a thoroughly symmetrical gun without sacrificing strength or safety; it is the safest breech-loading shotgun ever built.

It is Hammerless with Solid Steel Breech (inside as well as out)—Solid Top—Side Ejection—Matted Barrel (which costs \$1.00 extra on other guns)—Press Button Cartridge Release—(to remove loaded cartridges quickly from magazine without working through action) Double Extractors—Take-Down Feature—Trigger and Hammer Safety. Handles rapidly; guaranteed in shooting ability: price standard Grade "A" 12-gauge gun, \$22.60; 16-gauge, \$24.00.

Send 3 stamps postage for big catalog describing all Marlin repeating shotguns (hammer and hammerless), all Marlin repeating rifles, etc. Do it now!

The Marlin Firearms Co.,
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Build Silos, Dwellings or any class of building from Concrete Block. The London Adjustable Concrete Block Machine makes every kind and size of Block. High grade. Moderate price. We manufacture a full line of Concrete Machinery. Tell us your requirements.

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The Farmer's Advocate and Home Magazine

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VOL. XLIX.

LONDON, ONTARIO, FEBRUARY 5, 1914.

No. 1115

EDITORIAL

It is "high living" that is proving costly.

Which should be encouraged agriculture or armaments?

All the extra winter work should be completed this month.

Parcels Post is bringing producer and consumer closer together in the United States, and it will soon be doing so in Canada.

We sometimes look askance at the cost of a silo, but in what other way could so much valuable food be so well and more cheaply housed?

Production carried beyond the point of profit does not appeal to the man on the land as the most promising solution of Canada's vexed question.

It may be and it is quite practicable to increase production, but it is not always equally feasible to increase net returns. Most producers would readily make an effort to double the output of their farms if they saw in it larger net profits.

While the farmer is evolving a plan by which he can profitably produce more abundantly, the consumer might busy himself in battering down a few of the walls which now separate him from his daily supply of farm produce.

There is a difference of opinion as to who works the longer day, the farmer or the hired man. If they are both good men, it is more than likely that each works long enough hours in comparison with what he gets out of it.

Failing concerted intervention by the United States and leading European Powers, it is surely a humiliating spectacle for the early years of the Twentieth Century that Christendom must stand by helpless while Mexico commits national suicide.

A few figures are given in this issue on the cost of production in the Province of Prince Edward Island. They will bear a little study. The man who holds that it costs nothing to grow crops—that they are produced while the owner sleepeth, would receive a rude jolt if he digested these figures.

With a commission detailed to find it, and the House of Parliament with little else to do but discuss it, the real cause of our having to pay out more money to live than formerly should be discovered, and after the lengthy investigation is over we shall expect a ponderous blue volume with the cause in detail. We hope the farmer is not at the bottom of it.

If the yearly outlay of the urban home is higher in 1914 than it was in 1913, of course, the farmer will be blamed. If the books were carefully analyzed the increased expenditure would not be found to have settled in the farmer's old leather pocket-book, but more likely in the vaults of the automobile manufacturer, the wallets of moving picture promoters, and the banks of the designers and manufacturers of "the latest" direct from Paris. It is not what we eat that makes us poor, but what we ride in, see and wear.

1. Militarism in High Places.

George Washington's old maxim to be prepared for war as a means of preserving peace has been made the catchword of politicians, and a slogan for greedy makers of ugly weapons with which their dupes, who pay the bills, can kill each other. The militarism of Europe has been described as "organized insanity," and it has put a soldier on the back of every toiler in the land. The Mail and Empire the other day depicted Germany groaning under the most crushing war tax with which it has been burdened for a century, voted in the "dark" by the Reichstag under a bogus war scare "engineered by the Government", and "inspired most probably by the armament trust." The hellish fruitage of militarism lately hankrupted the Balkan states, destroyed the best of their population and ruined their agriculture for half a century. Greece is pleading with America to send back her sons to replace those butchered in the war. "The Farmer's Advocate" finds within its wide constituency a growing apprehension of Canada's military program, and without regard to political affiliations strong disapproval should be plainly expressed to those on Parliament Hill. Strange to say Ottawa is not always the spot to learn public opinion at its best. "For that," said one high in official life. "I must get away from the capital to some rural district and talk with common men in their candid moments." Officialdom concerns itself with the mere humdrum of the duties or talks and thinks as "the bosses" would like, and "the boss" may be no true friend of the common people. "Keep your eye on Churchill" wrote the author of "Pillars of Society," a famous English book of last year. "He is soldier first, last and always. He will write his name big on our future. Let us take care he does not write it in blood."

2. Militarism vs. Agriculture.

A Churchill may not have arrived in Canada, but we are getting on nevertheless. Under the sword and bayonet heading in this year's Canadian Almanac, 31 pages are absorbed in recounting the militia officialdom, war service officers, royal military schools, colleges and camps that are dotting this young land in all directions. We see noble armories rising like mushrooms in wavering constituencies to the delight of the political candidates, contractors and heelers. A whole volume would hardly describe the paraphernalia, fuss and feathers of our official soldiering. The public accounts in the expenditure column recount the cost, a great deal of which might better be devoted to clearing the pathway of agriculture or by elimination lessen its burdens. Militarism diverts attention from agriculture, and has ever been an enemy of farming interests. Our 1906-07 (nine months) militia bill from the Consolidated Fund was \$3,347,037.87 with no item for navy service, but these had swollen for the year 1912-13 to \$9,114,533.09 for militia and \$2,086,049.45 for several years in which, by the way, the Canadian youth is loath to serve, and the navy is yet mostly on paper. With this big increase what better are we off? We are paying more to live. There is nothing feathery about the \$11,200,582.54, however, as the tax payers ought to know. In the same statement the outlay for "arts, agriculture and statistics" is only \$2,647,878.53, less than one-quarter that spent on the militia and naval service. The expenditure for agriculture is not nearly as large as it looks, for it covers a lot of outlay on patents, copyrights, trade marks,

and public health service not properly related to agriculture at all. The inclusion of the \$1,000,000 from the new Burrell Fund ought to improve this year's comparative showing.

3. War Phantom and Peace Reality.

We submit that there is no legitimate warrant for these enormous increases in militia outlay. The military policing necessities of this country do not call for them. The Greenlanders will not descend upon us from the north, and the one country from which a land invasion might come is the United States, our neighbor, akin, to the south, with whom we are joining in celebrating one hundred years of peace. If we have lived in peace for one hundred years we can perpetuate peace for a century or two to come. The possible causes of international disagreement are not likely to be more serious in the future than in the past, but less, and the conditions for peaceful settlement are daily growing better. When European nations are struggling to get loose from the grip of the war lords, why should Canada put her neck in the noose? Why repeat their follies? The notion that armed conflict is only to be averted by maintaining huge armaments is unwarranted and foolish. It cultivates the war spirit and rather promotes the likelihood of war. A high, gold-laced functionary once proposed that our three thousand miles of international boundary line should be lined with forts, armed and ready to fight. Saner counsels prevailed, but every now and then some misguided enthusiast or "scare monger" looms up for whom there seems to be need for one more official the military fool killer.

4. The Lesson of the Veldt.

If it ever came to actual fighting, probably a lot of our architectural and professional militarism would go into the scrap heap as did that of the British army in South Africa a few years ago. A handful of Boer farmers, who had not been supported in public idleness, but who could shoot and take advantage of cover, put "the flower" of the British army in deadly humiliation, and it was not till her greatest and most seasoned generals were hustled to the front and the Boers outnumbered two to one that they succumbed. Their achievement was the wonder of the world. Whatever it has taught our war lords, it cost Great Britain the sum of £222,974,000 to find out that a lot of their fancy war toggerly was worse than useless, and the life bill was nearly 10,000 deaths, about 30,000 invalidated and an untold tale of horrors.

5. On the Wrong Trail.

After all the tumult and shouting and a fair perusal of the press and public deliverances, pro and con. "The Farmer's Advocate" can reach no other conclusion than that outside the immediate beneficiaries, there is no call for the big military propaganda, into which the schools are being drawn, that is going on in Canada, nor do the naval proposals awaken anything like enthusiasm, though there is an acknowledgement that Canada should assume obligations in relation to the care of its own shores as part of the Empire.

6. A Constructive Program.

This country has better use for men and money. The real program for the Canadian Government is not military but relates to the conditions of agriculture, production, transportation, a workable plan of aiding rural highway improvement and the more equitable distribution of rural and town populations. Indeed when we consider

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

Agents for "The Farmer's Advocate and Home Journal,"
Winnipeg, Man.

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THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

the benefits to be derived by the people as a whole, and the future vitality of the nation from the existence of a farming community, 1st, Contented because their conditions are equitable compared with those of other classes; 2nd, Educated aright beginning in the public schools, and 3rd, properly compensated for labor and investment, one must confess to astonishment that so little care and attention by statesmen has been given to this, the foundation of all the nation's activities.

Opportunity Close at Hand.

How often we do not make the most of our opportunities or possibilities right at home. The President of the Bank of Commerce, at that institution's last annual meeting, placed emphasis upon the fact that including the new district of Patricia, Ontario's 14,000,000 of acres under cultivation represents only seven per cent. of her land area. Yet with all this land uncultivated and waiting the settler, all eyes have been attracted to the four provinces of the West, and the young people who did not go to the city went West. Why go West if there is an equally good opportunity in the home province? This applies to the other provinces of the East. Far off fields are green, and their verdure draws with such irresistible force that many easily overcome the diminishing pull of the old home section and fly away to make their fortunes. Some succeed; some fail.

What province is there in Canada, this great and growing young country, which does not offer plenty of opportunity to the energetic? All the provinces have good land and poor, and every new settler or old in making a change should have a clear understanding of the district into which he goes—its advantages, its drawbacks, its assurance of success and its chances of defeat and failure. What is the use of locating people in sections of country in any of our provinces, the very character of which indelibly stamps those who live in them failures? There is plenty of good land—productive land lying idle in our eastern provinces awaiting the sturdy settler, but the man looking for a new home must make the most of his time spent in choosing. The best

districts should be settled first. Land which from its rocky nature and scant fertility was never intended for cultivation should not be settled with that end in view, and undue advertising of it while better country lies idle is not in the best interests of progress. What can a man accomplish tied to a farm which will not grow anything, and surrounded by just such land and conditions which arise from it? There is an excuse for the man so situated not making good, but none for the man on good soil who neglects to make the best use of his land and his location.

Let us not think of this in provincial-wide scope, however. Take the matter nearer home. How many farms in your own locality have changed hands and their former owners have gone to new districts, while under new management the old farm has paid and paid well? And again mayhap there are still some farms half worked and unprofitable, manned with dissatisfied would-be-millionaires, if work and good management were not required to gain that end. We may not be cultivating more than one-seventh of our available land, and yet much of that small area now under the plow is not worked at the profit it should be. In many cases a smaller acreage well tilled would yield better returns than the large area "scratched over." Whether we go east or west or north or south in this Dominion there is land and opportunity, but it must not be forgotten that if located in a productive, thriving section of the older provinces there is, provided the same amount of energy is put into it as is done in the newer sections, plenty of chance to improve position, and if new fields are to be conquered they are often present near our own doors in sufficient number to warrant attention. Comparatively only a small area is cultivated, but our oldest fields have not yet been worn so threadbare that they should be discarded. They still will make a respectable appearance if well cared for. All the land of opportunity is not in the far west or the far north. Some of it is nearer home. When we have more people engaged in agriculture then will the area of cultivated land extend rapidly, but not while all eyes are turned towards the city or towards other provinces.

Nature's Diary.

By A. B. Klugh, M.A.

"The busy Nuthatch climbs his tree
Around the great bole spirally,
Peeping into wrinkles gray,
Under ruffled lichens gay."

A little bird we see quite frequently in winter is the white-breasted Nuthatch, and its loud "quank-quank-quank" note is a cheerful sound in the winter stillness.

Most birds have at least some preference for keeping "right side up with care"; the Nuthatch has no such preference, right side up or up side down is all the same to it, and I am not at all



White-breasted Nuthatch.

sure but that it prefers the inverted attitude. This peculiarity has given it the name "Devil-downhead" by which it is known in some localities. In color the white-breasted Nuthatch is bluish grey above with white throat and breast and reddish underparts. The sides of the head are white, and a black cap extends back upon the neck. The wing feathers are dark brown edged with pale grey. The middle tail feathers are bluish grey like the back; the others are dark brown and tipped with white in such a manner

that when the tail is spread it shows a broad white border on both sides. The feet are well adapted for clinging to the bark as the front toes are strong and the hind toe is very long and has a long sharp claw. The bill of the Nuthatch is really straight, but has the appearance of pointing upwards a little because of the upward curve of the lower mandible.

The name Nuthatch is derived from the habit which these birds sometimes exhibit of wedging a nut or acorn in a crevice of the bark, and "hatching" it open with the bill. As far as my personal experience goes with our two Canadian species, this habit is a rare one, and it is a point upon which I should like to hear from readers of "Nature's Diary."

One winter a white-breasted Nuthatch furnished me with a good deal of entertainment. The next-door neighbors used to leave the slit in the double window of their pantry open, and keep their butter-dish just inside on the inner window sill. This Nuthatch would come down from the tree at the back of the house, perch on our fence, take a sharp look round, and then fly down to the window sill of the pantry. It would then take another look round, crawl in through the slit, peck out a piece of butter, emerge with it in its bill and fly off. I daresay the neighbors laid the blame on mice, particularly as one day the Nuthatch flew off with a piece of cheese.

This species is not only an interesting and cheerful friend in the winter, but it is decidedly beneficial as far as its food habits are concerned. Over half its food consists of insects and spiders, the rest being made up of nuts, acorns and large seeds. Mr. McAtee, of the United States Biological Survey, mentions it as one of the enemies of the Codling moth.

The white-breasted Nuthatch is a common resident in Canada from the Atlantic coast as far west as Western Ontario. The nest of this species is made either in the old woodpecker's hole in the trunk of a tree or it is cut in the rotten wood of a half-decayed tree by the birds themselves. Sometimes it is lined with hair and feathers, and sometimes leaves also are used as a lining. The eggs are from six to eight in number, and are white, spotted thickly with reddish brown.

The Farmer's Boys and Girls.

Editor "The Farmer's Advocate":

What is the farm going to do for young folks? A few days ago I was running over in my mind the changes which have taken place in our neighborhood since we moved on the farm, now almost a quarter of a century ago, and I was startled to find that there are almost no young folks left here. Where there once were from three to five or six boys and girls in every farmer's family, now they have grown up and gone—where? Who knows? It would be a wonderful story if we could have it all written up. On these places, instead of boys and girls and young folks, we now find on one farm a man and his wife well past middle age; on another an old man with a maiden daughter for a housekeeper, but not a son left, although he had several; on still another a man and his wife both well along in years, he a cripple and she nearly blind, with no son or daughter to care for them, and so it goes, until one becomes almost discouraged thinking of the present and the still more important future and wonders what is to come out of this dearth of young men and women.

The shops and factories of a city a few miles away have swallowed up many of these boys and girls, others have gone away to be teachers, while still others are now in professional life or away at college. The work is done very nearly exclusively by hired hands, who, as a rule, do not care much how they do it, if only they get their pay, or else by renters, whose object seems to be to get what they can out of the land and when it is exhausted go somewhere else and repeat the operation.

On a good many farms of our township we may now find people who have the characteristics described by Prof. Ross in a recent article on the immigrant as being "hirsute, low-browed, big-faced persons of obviously low mentality," in every face of whom "there is something wrong." Very different are these men and women from the class of people who came to us in the past, who are now becoming the farmers of our country. What changes these people may work out in the course of time in the destiny of our country we must leave to time to determine. The point we are now considering is, that the boys and girls of the native settlers are going and their places being filled by a strange class of men and women, who are not governed as yet by the high ideals that once swayed the farmer folk of this nation.

Our young folk go from the farm for different reasons. Some of them are led away by the short hours and the attractive life of the shops and the mills. Some have a natural bent toward other occupations, some do not know why they do want to go, save that others are going

Dr. Maria Montessori

THE HORSE.

Fitting Heavy Horses for Sale.

There are usually two sides to a question. Where horses are the question upon which the discussion is based the two sides are closely defined by a conspicuous line of demarkation, as it was in the horse deal between the Deacon and David Harum. One side is towards the seller; the other is more conspicuous to the buyer. The context of this article is in the interest of the seller. Buyers beware!

"Condition" is one of the most important factors entering into the market value of horses, yet it is to a large extent overlooked by producers. They feel sure perhaps that the quality of bone, shape of shoulder and general conformation will sell the animal, but the average buyer of one or two horses is not yet as wise as he should be. A little flesh, a sleek coat and a round body look good to prospective buyers. The "Scot" in the Old Country does not price the colt that is roughing it in the paddock as quickly as he does the smooth horse in the stall. He has been fitted for a purpose.

Some individuals are ostensibly very much benefited by a period of fitting or fattening. It deepens the chest and flank, it thickens the thighs, it strengthens the coupling, it widens the croup and even improves in appearance the slope of the shoulder. In addition to this, it adds materially to the value of the horse through increased weight. An animal weighing fourteen hundred and fifty to fifteen hundred pounds may, in about one hundred days, be made to weigh about seventeen hundred pounds. Thus the animal has been converted from a farm chunk into a drafter or heavy-drafter. Through test it was ascertained at the Illinois Experiment Station that gains could be made from 12.3 cents to 15.24 cents per pound. The gains were worth 18 to 20 cents per pound, so flesh could be laid on at a profit and at the same time enhance the value of the original animal. The food consumed was corn at 43 cents per bushel, oil meal at \$27.00 per ton, and oats at 35 cents per bushel. These prices will serve as a basis of calculation at the present time.

hand, but a ratio of one to eight existing between the protein and carbohydrates and fat is considered most economical. Some feed as often as five times a day, but the majority dispense the grain in three feedings. On full feed, horses weighing 1,500 pounds on the start will consume from 18 to 20 pounds of grain and from 12 to 14 pounds of clover hay per day. Where corn forms a part of the ration, twelve parts corn to four parts oats make a good combination with clover hay, while if timothy hay be used, one part of oil meal should be added to the ration. A ration of one part bran and four parts corn, along with clover hay, is a safe mixture, but bran can be indulged in to excess when clover is being liberally fed. They are both laxative in nature and impede the rapid laying on of flesh.

Heavy horses are quite likely to stock in the legs, but in case bran and clover or alfalfa do not form a heavy part of the ration two bran mashes per week or some Glauber's salts mixed in the grain will allay the trouble. Fine-boned horses with quality will not demand the same attention in this regard, but drafters and chunks do not all possess these qualifications. A week or more will be required to put the colt into condition and during this time the animal should be exercised very mildly. The danger from azoturia is great when the horse begins to exercise in such a congested condition as exists after prolonged and quiet feeding. To lessen the danger it is wise to diminish the allowance of feed and administer a slight physic the day prior to any activity.

Idleness without exercise is not in the best interests of the horse, but it is usually the mature horse which is fitted in this way and less injury is done than would accrue to younger animals. However, that is the buyer's outlook and it pays the grower well to exhibit his stock with a sleek and glossy coat.

Ground Grain for Horses.

Out of sympathy for the horse, many owners grind their grain, even if the animal evinces no displeasure in grinding it himself. In rare cases this is wisdom; in most cases it is folly. There is a "something" about grain which is lost in the grinding, and in order to observe the value live stock place upon the natural product watch the avidity with which cattle attack the husk or cob of corn.

Experimenters see nothing to be gained in grinding grain, and Lavalard, from his experience with thousands of cab and omnibus, as well as army horses, in France, declares it is not necessary to grind their grain, especially oats. It was furthermore noticed that after a few months the animals preferred to crush the grain themselves.

The Dominion Experimental Farm at Ottawa has been the seat of some trials along the same line and their conclusions are that where a mixture of cut hay and bran is fed to horses having good teeth, there is no advantage in grinding oats. When horses are hard worked and have but little time in the stable, or when their teeth are poor, it is well to grind their grain. All small, hard grains, such as wheat, barley, rye and kafir should always be ground, or, better, rolled.

With reference to cooked feed, the opinion also prevails that dry food is preferable. The time was when the feeding of sloppy stuff was considered a necessity in wintering brood mares, but experience has shown that dry food is best. Even stallions formerly received their ration of boiled barley twice a week during the season, but that practice is now waning. Experiments have shown, however, that the addition of this material to the grain ration makes no appreciable difference in the manner in which the grain is digested.

There are cases, nevertheless, where poor teeth will warrant crushing or rolling, but often they might be repaired by taking of the rough edges. Too often horses bolt their grain and no matter what is done with it they swallow it unmast-

and "it is so lonesome" here in the country! Still others, no doubt, do not find the work of the farm as pleasant as it should be because of some little friction in the home. But whatever the reason, they are going—yes, they have gone—and now a new generation is coming on. What can we do to hold the young people on the farm?

We want these boys and girls; we need them badly, not simply for the work they can do, but for the good of the country. We do not like to think of it that the standard of citizenship shall be lowered, as it surely will be if something be not done, and done soon, to prevent it. What can we do?

In the first place, as it seems to me, we need to help the boys and girls to see that there is no better, no manlier, no more independent and withal any more profitable business in the world than farming. I know great fortunes are not made on the farm as a rule. Still, some men do get really wealthy in that calling. But neither is it a fact that everybody gets rich in the city. In fact, the proportion of the desperately poor is far greater in the city than it is in the country. If we are looking for genuine cases of suffering and deprivation, we do not look for them in the country; we seek the city paths and by-paths. There we are never disappointed. If we can get the young folks to see this we have made a good start.

Then, too, we are doing a good thing when we talk the farm up, not down. Far too often the father and mother by their complaining, fault-finding ways wean the boys and girls from the farm. They get sick and tired of hearing the farm always spoken of as a hard, thankless place in which to live. They go because father and mother have no love for the farm, and can impart no love of that kind to their children. When we speak of the farm, let us speak well of it. It is worthy so to be talked about. It is a fact that people live happier as a rule in the country than they are in the city. Sometimes we have to go and try the city and see what it is really like below the surface to help us to appreciate the farm as we should.

Again, farmer folks might well enter into the hearts and lives of the young people more than they do. The bridge between father and mother and son and daughter is too long. Let's shorten it up and make it easier to traverse! Why not talk to the boys and girls more about the things of the farm, always holding up the attractive and the sunny side? Why not take a real interest in the farm ourselves and not be always looking forward to a time when we can get away from it and become dwellers in the city? Those who are all the time uneasy, discussing the advantages of the life of the city, need not be surprised if their children soon take the road for the hot, restless, unnatural life of the town. For boys and girls are quick to take on the color of the life about them. Sunshine kindles sunlight in their lives. Shadows depress and lure away into the darkness. We do not set traps baited with vinegar to catch the honey bee. Sugar is what does it.

Other links binding the young people to the farm are good books and magazines. I would like to see a good farm paper in every home of our country. It would be a bond of the finest type. The educational value of such a paper can never be estimated. It is school, private adviser and spiritual counsellor. The man who publishes a good, clean, strong farm paper is doing more to mold the lives and the characters of the generation now here and the men yet to be than any other one agency, unless I may except the church. So let us give the boys and girls the best literature of this class we can, no matter at what cost. It is money well expended.

A few books of his own, a pretty room with easy chairs, a table, a few pictures on the wall and a sunny outlook have kept the heart of many a farmer boy true to the country; while the girl who has a cosy corner all of her own, with bright paper on the wall, music, books and a writing desk supplied with pen, ink and paper will hardly feel like hunting the city over for a finer home.

If on top of all this father and mother are always bright and cheery, always living close to their children, giving them a part in all farm operations and studying with them the birds, flowers, trees and creatures of the great beautiful out-of-doors, who can doubt that little by little the tide will turn and the country become once more what it used to be and what it might be again, the dearest place to the young in all the world? These are not any of them hard things to do. They are the things every true man and woman will enjoy doing. And they are what will lift the home life of the farm up to the place it ought to occupy. Is it not worth doing?

N. Y.

O. L. VINCENT.

It is said that there is romance in mixed farming. Quite true, and there is a little money too.



A Good Morgan.

This breed is being encouraged in the United States.

The management of fattening horses is different from that of other kinds of stock. They should be kept absolutely quiet and fed liberally. A test involving 20 horses, of which seven were not exercised and thirteen walked 28 miles daily for 84 days, showed that the exercised horses gain 41 pounds less or nearly one-half pound per day less than the horses at rest. So far as could be seen, the horses at rest maintained their appetites and good health as well as the exercised horses. In connection with the same experiment, horses were tied in narrow stalls and some were confined in box stalls. Those running loose gained 2.2 pounds per day as against 2.4 pounds gained by the horses tied in narrow stalls. In spite of these findings, some horses might do better in box stalls. It adds to their comfort and a coarse horse would stock less in the legs when allowed this small amount of freedom.

The ration should be governed by the feeds to

cated. A few stones in their box or a thousand and one other devices in vogue will prevent this to some extent and oblige them to get it more slowly. When the whole grain is thoroughly masticated the saliva which accompanies it into the stomach aids digestion very materially and offsets the hardship or labor suffered by the animal in breaking up and chewing the hard kernels.

Colts and old horses generally do best on ground grain, but for the mature animal with a good set of teeth grinding is of little value.

LIVE STOCK.

Light and Ventilation.

Editor "The Farmer's Advocate":

I am glad to note you are inviting a discussion of light and ventilation. I don't believe your valuable columns could be devoted to a better work than urging better light and ventilation, both in the stable and the home. From the best information we have, disease among our live stock is on the increase, and I do not wonder at it. Our own common sense, as well as the teaching of our ablest authorities on disease and health, tells us that sunlight is the greatest microbe and bacteria destroyer that exists and it costs nothing and without a supply of fresh air always available to be taken into our lungs and the lungs of our live stock (upon which we are largely dependent for our daily food) disease and physical infirmities are bound to increase. From careful observations as I travel from place to place, I will venture to state that the average stable hasn't more than one-quarter light enough. Some of the newer stables are fairly well lighted, but I think I am quite within the mark when I say that not ten per cent. of the newer stables are sufficiently lighted. One of the difficulties seems to be that very many are building their buildings too wide to properly light them in the centre. I think 40 feet to 44 feet is as wide as can be properly lighted and quite as wide as is convenient for storing grain and hay, threshing, etc. I also think for a stable, say 40 feet by 60 feet, there should be at least 120 square feet of glass to light it properly, and then the upper part of box stalls and mangers should be of iron or wire so as not to shut the light out from any part.

While light is very important, fresh air is still more important. Unless there is a constant supply available at all times, the stock are taking into their systems the poisons that they have just cast off, which is bound to produce bad results. If we would be a healthy and robust race, we must attend to these matters. Diseased meat and unhealthy milk are the forerunners of disease and misery in the homes throughout our lands. The cheapest things we have within our reach are sunlight and fresh air. Let us see to it that we secure our fair share. Farmers who have their massive stone stables wonder how to get more light, but they wouldn't find it such a difficult job if they went at it with hammer, chisel and sledge. They could soon make openings under the windows that are already in existence, where they would soon have a space for a frame 3 feet or 3½ feet by 4 feet. Another advantage with plenty of light and ventilation is, that lice and ringworm give but little trouble.

R. H. HARDING.

Middlesex Co., Ont.

Our English Correspondence.

BRITAIN'S GREAT MEAT IMPORT TRADE.

Compared with 1912, in 1913 the frozen carcasses imported into the United Kingdom show an increase of 10.5 per cent. in mutton, 4.2 per cent. in lamb, and a reduction of 3 per cent. in beef. The cause of the last named decline is accounted for to a great extent by the further development of the trade in chilled beef. The total imports of chilled and frozen meat was 720,661 tons worth £26,662,896. The eventual disappearance of the United States as a source of supply to the British market had been anticipated some long time ago, but the actual cessation of exports in 1913 came with dramatic suddenness.

Britain's export trade in pedigree stock has been a wonderful one in 1913, and Canada has played a right royal part in buying in the very best of markets. All told, we have sold out of Britain stock worth £2,236,883. Of that total £1,783,215 must go to horses, which numbered 68,636, and hence were worth £25,597 each. That is a low price, but it must be understood that it includes thousands of worn-out horses sold to Belgium at an average of £11.81 each. These poor things made excellent cheap food for the penurious classes on the continent. The better class of horses sold to France, for instance, averaged £78.14.1.

We sold 4,580 head of cattle of the declared value of £274,297, or an average of £60.05 each. The Canadian demand in 1913 was about

on an average with previous years, 139 head being shipped at £34.65 each. In 1912, 185 head went out at the then very good price of £75.12.9 a head. In 1911, the total was 136 and the average value £38.10.7. In 1910, the 212 sent out were worth £34.15.5 each.

All told, we sold 6,538 sheep in 1913 worth £99,449, or an average of £14.2.9 each. Canada's little lot were 424 worth £6,16.10 each, as against 21 in 1912 worth only £2.7.7 each. In 1911 she bought 374 for £6.2.1 apiece, but in 1915 took 381 at £5.8.1 each.

Of pigs we sold 1,355 head for £18,063, an average of £13.6.6. Canada took 37 head for £7.2.8 each, as against 11 in 1912 at £16.7.3; 22 in 1911 worth £15 each, and 21 in 1910 sold at £7.15.3 each.

Canada in 1913 sold us 169 horses valued at £3,120. In 1912 the figures were 151 worth £3,800.

A strong move is being made in Herefordshire and Shropshire to boom the white-face cattle of that area as milkers. Of course we all appreciate the success of the Hereford breed in the way of meat getting, which in the past has gone against the idea of the type being used for dairy purposes, but nevertheless Hereford cows may be bred to become goodly milkers. In producing a milking strain it is absolutely necessary that

significant, it may be added that the applications for Shorthorn bulls considerably exceeded in number those received for all other breeds put together. In England, during the past two or three years, record prices for bulls and for cows of the milking Shorthorn strain have been paid, both for home use and for export purposes. In conversation a month ago with a man who may perhaps be considered as the leading breeder of milking Shorthorns in the United States, the statement was made that his business had been growing far beyond the possibilities of his herd, and that even at stiff prices he was unable to supply the demand for young breeding bulls.

What is the significance of these facts? If the market wants and will pay for beef, why this cry for milk? The reason is not far to seek. It is from the man who raises the steers that the demand comes. If this man has to debit his six-months-old calf with the keep of its dam, where is the profit to be obtained? It costs at least \$50.00 to feed a cow for a year; add to this the service of the bull, risk and other incidental items and a calf becomes a pretty expensive commodity when its mother weans it. That is the crux of the whole situation. The day of the free range is over. The future of beef making depends upon the profit which can be made out of it by the man on the fenced farm. On high-priced

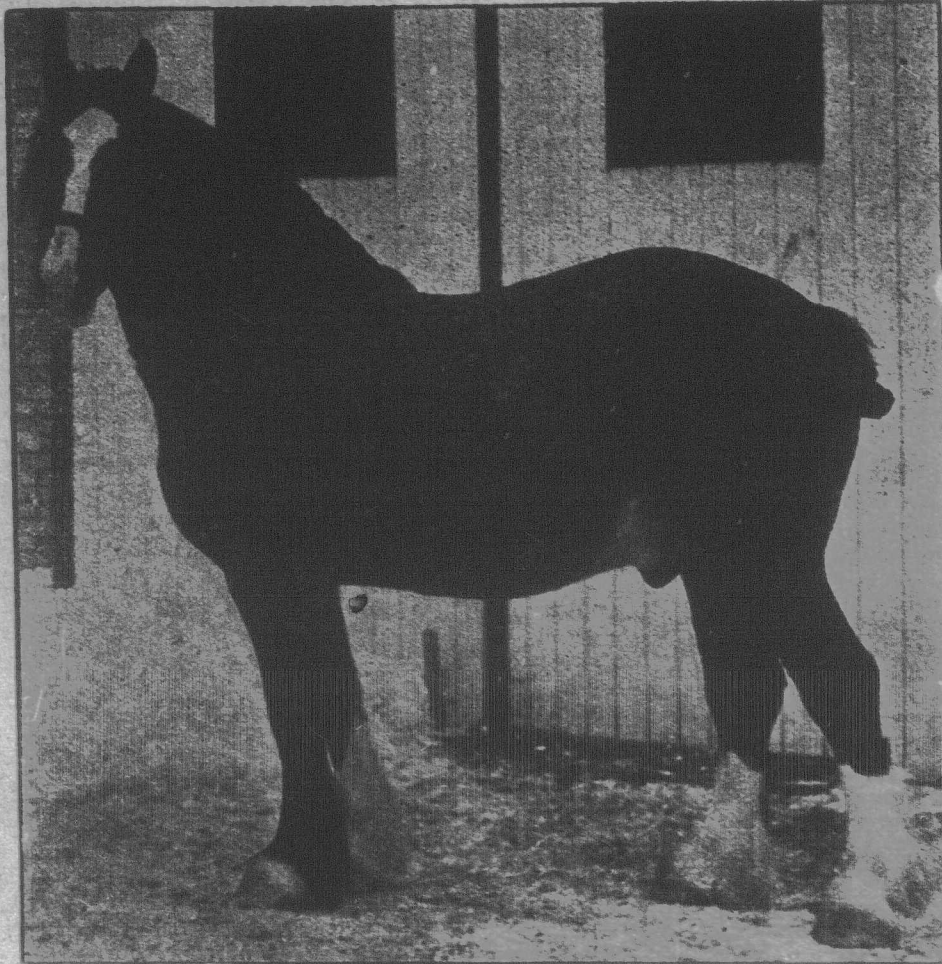
land no dividend can be secured with cows that do no more than raise their own calves. If breeders of pure-bred cattle do not heed the judgment of the country upon this question and set their hands earnestly and consistently to the task that is now thrust upon them, we shall find the business of high-class beef making demoralized through the farmers resorting to the use of dairy sires to cross upon their cows. This is no vain statement. The practice is already being illustrated in several districts in Ontario to-day.

What then is there to do? There are many bulls now being offered for sale with sharp shoulders and lean thighs which are thought to approach the type of dairy sires. They are being advertised as dairy Shorthorns. Will they fill the bill? By no means. You cannot make a dairy Shorthorn sire out of an ill-doing calf. It is a question of

breeding, not of feeding—though one might venture the statement that, in the case of some of the bulls now being registered, it is a matter both of the one and of the other.

Shall we then cast aside the tradition of generations and make of the Shorthorn a dairy breed? By no means again. We have already sufficient dairy breeds in Canada and to attempt to compete with the Holstein, the Ayrshire, the Jersey or others would be both unnecessary and unwise. I have myself had some little experience with a dairy Shorthorn herd and am inclined to think that, in comparison with the specialized dairy breeds, the Shorthorn will always prove a disappointment. We will admit what is being done in England. The Shorthorn is there bred for dairy purposes, and, in many cases, for dairy purposes only. I have seen herds in that country where the emphasis placed on high records, the general type of the cows and the object for which they were bred—milk for the London and other urban markets—clearly indicated that dairy interests predominated in the course which was being pursued. We do not, I think, want that in this country. We want rather a cow that will make beef making possible.

This last is a sentence which may be misinterpreted and misconstrued, but I think the meaning is clear. Let me illustrate it, however, by reference to a comment made by a contemporary breeder on a visit to Mr. Thos. Bates, of Kirklevington fame. This breeder was shown the butter put up for the Newcastle market, and, thrown off his guard, was surprised into the re-



Cumberland Gem.

A 1,980-lb. Clydesdale stallion, by Sir Everest, dam Sapp of Preston Hows. This good horse, owned by T. J. Berry, Hensall, Ont., is for sale.

both the sire and dam should be from reliable and known milkers. Many breeders of Hereford cattle have kept milk production carefully in view. The system of allowing cows to suckle their calves is not favorable to the development of a large milk yield and this practice is very prevalent in Herefordshire.

London, England.

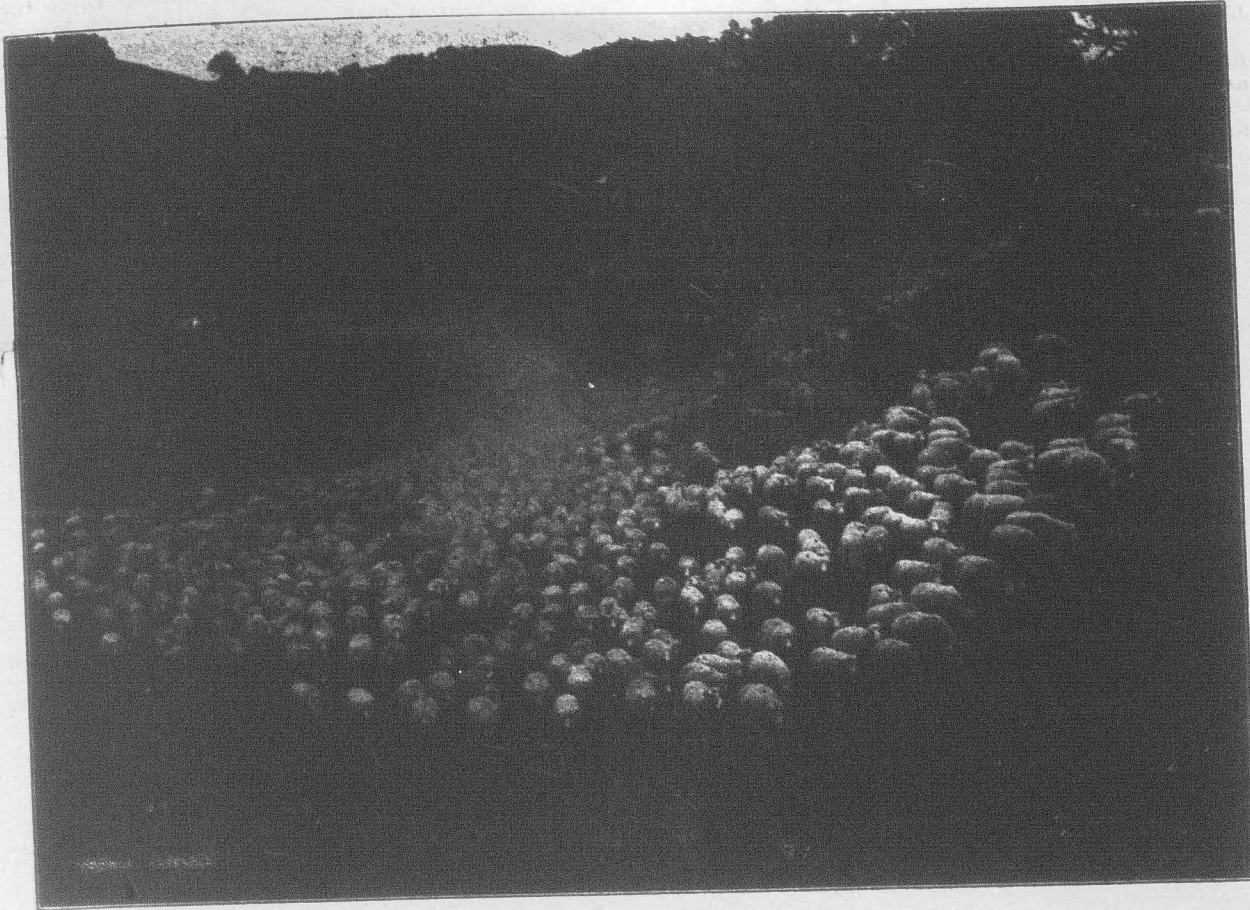
G. T. BURROWS.

Dairy Shorthorns.

If there is one thing more than another which, in connection with the breeding of beef cattle, needs sane, clear, unprejudiced judgment, it is the question relating to the practices now to be followed in breeding Shorthorns. Is the Scotch type to be maintained? Are the traditions of the great Aberdeenshire breeders to be upheld? Are the standards set by the early pioneers in Canada to be continued? Or, to put the question in a more suggestive and perhaps a more truly significant way, are there to be any changes in the fashion as maintained by the breeders and developed in the show-ring during so many years and even up to the present time in Canada?

The demand for good beef stock has never been so keen as at the present time. Then, why give a second thought to this faddist idea of milk in Shorthorns? Yet, it is here to be reckoned with. Fully fifty per cent. of the applications received by the Department of Agriculture during the past year, for the loan of Shorthorn sires, represented definite requests that bulls of a milking strain be supplied. To make this statement even more

mark: cause t we can prices triumph city of day i will m paralle North occupa ed and The in Scotch future. The the U situat that l eral c read for an ties, found her n allow butte her-v the p Cana horn. Pe may shou the : tion tive impo th elect time shou obt a v spea of t ed t and Out ope and may alle trat out ity, typ cou mil of mo fou and not red an Ar th



Coming Down from the Hills.

mark: "You can go on breeding Shorthorns because they pay you in milk, butter and beef, but we cannot do so unless we sell them at high prices to breeders." The present situation is a triumph for Mr. Bates' foresight, skill and tenacity of purpose. His faith is being rewarded today in the demand for beef cattle that will milk. The history of Scotch Shorthorns has paralleled the development of free land in the North and South American continents. With the occupation of the free land a new era has dawned and a new type of cattle is being demanded. The infusion of Bates' ideas into the breeding of Scotch cattle will represent the Shorthorn of the future.

The demand from other countries, including the United States and Argentina, emphasizes the situation and indicates with growing clearness that the movement has now become one of general commercial and industrial importance. If I read the movement correctly the demand is not for an animal of dairy proportions and capabilities, but rather for a beef-bred cow with the fountains of her system so energized as to enable her not only to nourish her calf, but as well to allow a reasonable working dividend in milk and butter. Such is the type of cow which will pay her way on the ordinary farm and make possible the profitable regeneration of the beef industry in Canada. Such in substance is the dairy Shorthorn.

Perhaps a word is necessary as to how she may be produced. The problem is one which should attract and stimulate the best efforts of the younger generation of breeders. The solution will not require the investment of a prohibitive amount of capital nor necessarily demand the importation of cattle from England or elsewhere. The Collings and Booth and Bates could make selections from the ordinarily bred herds of their time and achieve such pronounced successes, it should be possible to use the cattle of to-day and obtain satisfactory and permanent results within a very few years in the direction of which we speak. Very much will depend on the selection of the herd headers. Poultrymen have established that egg production is a sex limited character and that it is transmitted through the male. Out of the Barred Plymouth Rock has been developed a strain of fowl of high egg-laying capacity and yet eminently suitable for table use. We may not say that the two cases are exactly parallel or that the same laws apply, but the illustration is to me very suggestive. Bulls tested out by a little careful work will, in all probability, furnish the key to the position. Given beef type with a natural proclivity to flesh and finish, coupled with these the legacies willed to him by a milk-yielding mother, together with a brain full of energy which he himself manifests with every movement of eye, head and body and you have found a sire not likely to disappoint you. Vigor and milk production are co-relatives. You cannot get the one without the other and a little red blood in a beast's veins won't do the meat any harm.—(From an address prepared by H. S. Arkell, Assistant Live Stock Commissioner, for the Ottawa Winter Fair).

THE FARM.

Artificial Fertilizers; Their Nature and Use — X.

By B. Leslie Emslie, C.D.A., P.A.S.I., F.O.S.
FERTILIZER FILLERS.

The manufacturer's object in using a filler is two-fold: Firstly, it enables him to reduce the percentages of plant food, so as to produce low-grade goods at a price to suit the farmer's pocket. Secondly, it prevents caking of certain materials and tends to keep the mixture friable during the considerable period, which ordinarily elapses between mixing and use. A farmer may be offered a fertilizer at forty dollars per ton, and another at twenty-five. He might choose the latter on account of its lower price, but if he can intelligently examine the analysis, he will usually find that the fertilizer at \$25.00 contains just half the amount of plant food present in the \$40.00 one, so that the \$25.00 goods represent one-half of the \$40.00 brand plus one-half ton of sand or other filler, on which he has to pay freight and the expenses of handling. Various materials, such as sand, limestone, peat, coal ashes, etc., are frequently used as filler.

Let us refer again to the material whose analysis we have been examining. It contained 32.8 pounds nitrogen, 160 lbs. available phosphoric acid, and 40 lbs. potash. This could be supplied by

218 lbs. nitrate of soda.
1,143 lbs. acid phosphate, (14% available phosphoric acid.)
80 lbs. Muriate of potash.
1,441 lbs. total weights of separate materials.
559 lbs. filler added to make a ton.
2,000 lbs.



Shorthorns in the Shade—Calves at Pasture in England.

These figures speak for themselves, and show how mixtures may be diluted.

EXTRAVAGANT CLAIMS MADE ON BEHALF OF CERTAIN FERTILIZERS.

We are reminded of a certain company, now defunct, that for several years conducted operations in Canada, having imported and offered for sale in Canada an organic substance for which they claimed extraordinary fertilizing properties. The analysis of the material showed a very low fertilizing value, but the sales agents of the company, who probably knew little of what fertilizers ought to contain, argued that the substance possessed some peculiar virtues, which could not be indicated in the analysis. Apparently they were successful in getting some purchasers to credit their story, which ultimate results, however, discredited. A farmer ought not to purchase fertilizers impulsively on the strength of "airy tales" or startling advertisements, but should bring his calmer judgment to bear on the selection of his fertilizer materials. Let him remember that the analysis forms the basis of valuation, and if he cannot figure the price out for himself he ought to consult some one who can. Startling headlines in fertilizer advertisements, while they may serve the purpose of attracting attention, ought not to influence the farmer's judgment.

HOME-MIXING OF FERTILIZERS.

Arguments Urged for and Against the Practice.—Some manufacturers contend: 1, that the average farmer is not sufficiently familiar with fertilizers to be able to mix them intelligently; 2, that the farmer lacks the necessary facilities (machinery, etc.) for thoroughly incorporating the various materials in the mixture; 3, that there is some mysterious beneficial cooking action, accompanied by chemical changes, which the materials undergo when being prepared in the factory.

The latter argument can only be successfully urged in talking to a man who has no knowledge of fertilizers. This absurd statement was made recently by the representative of a United States fertilizer firm, but such ridiculously shallow arguments plainly reveal their motives. The argument, in fact, is not applicable to the case at all, since the cooking process described, represents the treatment of phosphate rock with sulphuric acid in the preparation of acid phosphate. All fertilizer manufacturers, even, do not conduct this process of acidulation, but purchase the ready-prepared acid phosphate just as the home-mixer can, so it is hardly to be expected that the farmer would ever attempt it. The other arguments, although apparently logical, may also be dismissed as unsupported. In the writer's experience no very serious difficulty was ever encountered in getting a sufficiently fine and thorough mixture with the aid of the simple apparatus to be found on the farm, and the fact remains that those who have once tried out home-mixing rarely return to the exclusive use of ready-mixed goods. Many Canadian manufacturers recognize this tendency, and cater to it by offering to supply their customers with the separate materials or to mix the latter in the proportions required for different purposes.

Arguments in Favor of Home-Mixing.—1. Economy: Usually about 25 per cent. of the cost is saved by purchasing the separate materials. There is no useless filler to add to the cost of freight and handling; there is no duty on the separate materials, whereas the farmer must bear the duty charges on the ready-mixed fertilizer, when these are imported from the United States.

2. Assurance: The farmer who purchases the standard separate materials knows exactly what he is getting for his money, since he can rely on the regularity of the percentages in these forms and knows their degree of solubility.

3. Adaptation: With a stock of the separate

materials on hand, the farmer is enabled to make up his mixtures according to prescriptions, which he has prepared to suit the varying requirements of different crops, soils and other conditions.

From this short resume each farmer may judge, whether, in his case, it will pay him to purchase the separate ingredients in preference to the ready-mixed goods.

We do not wish to be understood as condemning the use of ready-mixed fertilizers, but would caution the farmer, who prefers to employ the ready-mixed materials, to purchase these from a reliable manufacturer in Canada, thus avoiding the payment of duty on the same. Let him purchase only high-grade brands, i. e., those showing the highest percentages of nitrogen, phosphoric acid and potash in the analysis. In compliance with the requirements of the Dominion Fertilizer Act, as already stated, the guaranteed analysis of the fertilizer must be stenciled on the sack or printed on a tag attached to the same, which tag also bears the number under which that particular fertilizer has been registered at Ottawa, as a means of identification. For the farmer's guidance in purchasing ready-mixed fertilizers, he may obtain from the Inland Revenue Department at Ottawa a bulletin, entitled, "Fertilizers as sold." In this bulletin are listed most of the fertilizers offered for sale in Canada, and the guaranteed and actual analysis of each is shown.

MATERIALS GENERALLY EMPLOYED IN COMPOUNDING HOME-MIXTURES.

The following are some of the more popular sources of nitrogen, phosphoric acid and potash:

Nitrogen.—Nitrate of soda, 15% nitrogen; sulphate of ammonia, 20% nitrogen; dried blood, 12% nitrogen.

Phosphoric Acid.—Acid phosphate, 14% or 16% available phosphoric acid; steamed bone flour, 22% available phosphoric acid; basic slag, 18% available phosphoric acid.

Potash.—Muriate of potash, 50% actual potash; sulphate of potash, 48% actual potash; kainit, 12.5% actual potash.

CONDITIONS INFLUENCING CHOICE OF MATERIALS.

Something has already been said in previous articles on the adaptability of certain forms of fertilizers to special conditions of crops and soils. For instance, peaty or swamp soils, containing a large quantity of vegetable acids, ought not to receive fertilizers of an acid nature; hence for such soils basic slag, as a source of phosphoric acid, may be preferable to acid phosphate on account of the free lime of the slag tending to counteract the acidity. It is noteworthy, however, that a large number of peat soils in eastern Canada contain fairly high percentages of lime, and experiments conducted on these have not shown any superiority in favor of basic slag. The latter material, however, is valuable for application to heavy clay soils for reasons already stated. On soils inclined to excessive moistness sulphate of ammonia will be a more suitable form of nitrogen than nitrate of soda, since the former, being less soluble, is not so readily leached out. On peaty soils or where a large amount of vegetable matter is present as a result of heavy manuring, very little or no application of nitrogen may be necessary. For potatoes, tobacco and sugar beets, potash ought to be applied, as a rule, in the form of sulphate of potash.

PRECAUTIONS NECESSARY IN MIXING FERTILIZERS.

Basic slag or quick lime ought never to be mixed with sulphate of ammonia, since the free lime in the former will combine with the sulphate part of the latter and the valuable ammonia will escape as a gas. This loss is readily detected by the odor of ammonia. A mixture of acid phosphate and nitrate of soda ought not to be stored for a long period in sacks as the material will cake and the sacks rot away.

Acid phosphate may not be mixed with quick lime or basic slag, since the lime will tend to revert the water-soluble phosphoric acid to the less soluble forms.

The potash salts may be mixed with all other fertilizers, but a mixture of basic slag, and either kainit or potash manure salt ought not to be kept over twenty-four hours; otherwise the mixture will become as hard as cement.

In the next article methods of mixing and applying fertilizers, as well as prescriptions for various crops, will be given.

(To be continued.)

Canada's cattle herds are being depleted. It is to be hoped that the cleaning out will mean a smaller percentage of inferior animals. Unfortunately very often under such circumstances the owner is prevailed upon to part with the best. If high prices tempt, it is always advisable to start at the most inferior animals of the lot. Do not offer the choicest, they are worth as much on your farm as on that of another.

A Barn for Seventy-five Acres.

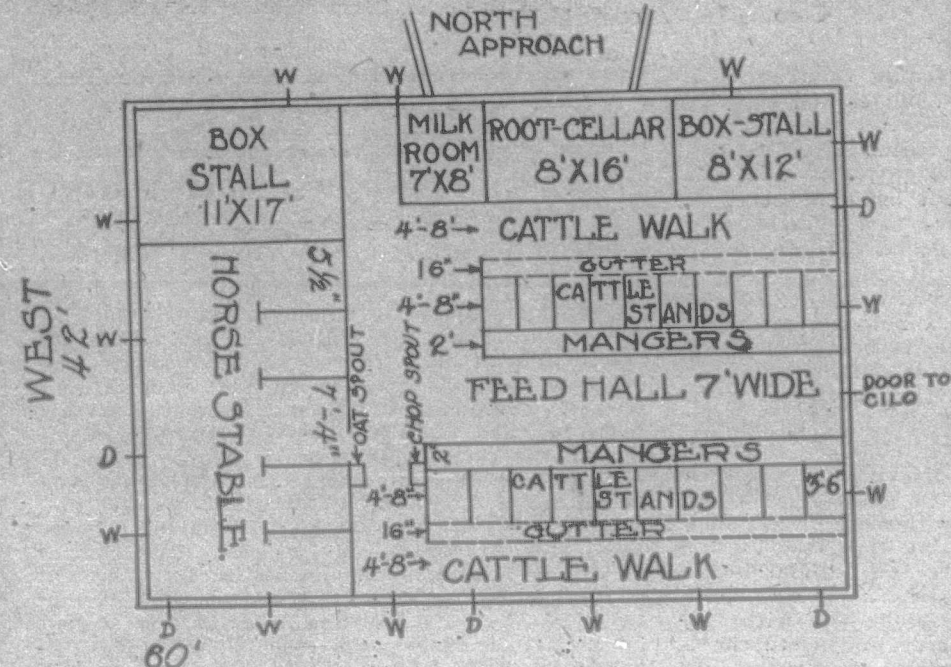
Editor "The Farmer's Advocate":

I am sending a description and plan of our barn and stable, which I find suitable for a 75-acre farm.

The barn is 42 feet by 60 feet with 16-foot posts and a hip roof. The driveway is 14 feet wide, with a 20-foot mow on one side, and a 26-foot mow on the other. The granary is off the 26-foot mow, and is 18 feet wide. The stable wall is solid concrete, ten inches and nine feet by four inches from floor to floor. There are 13 windows and six doors with transoms over five of them. Each window has two panes two feet square, which provides abundance of light. The position of the windows and doors can be seen in the plan.

The horse stable is in the west end of barn, (this end being nearest the house), and it takes up 17 feet. There are five stalls and a box stall, and their widths are given in the plan. The wide stall is also used as a hall to go through to the feed hall.

The cattle stable runs lengthwise, and there are two rows facing each other, with a feed hall seven feet wide between them. Each row has ten stalls. The cow stalls are three feet six inches wide, and are nearest the barnyard. The other row is for young cattle, the stalls being only three feet wide. Then behind this row is a box stall, root cellar and milk room. Their position and dimensions are indicated in the plan. Each row of cattle takes up twelve feet eight inches over all—mangers two feet, cattle stands four feet eight inches, gutters 16 inches, walks four feet eight inches. These figures are for steel walls and stanchions, otherwise the cattle stands would have to be longer.



Plan for a Barn of Fair Size.

Feed and bedding can be thrown down either side of the driveway. For the cattle it can be thrown down between the rows, and for the horses in front of them, and opposite the short row of cattle. Two feed spouts come down from the granary, the one for chop and the other for oats. See plan for positions.

In the milk-room is a drain which is very handy when cleaning out. An opening through the floor with a grate over it, and a row of three-inch tile underneath the floor and running through the wall, at a point where the ground is a little low, is all that is required for this.

For ventilation there is a four-inch tile placed in the wall below the floor level, connected with a row of tile running underneath the hall floors, with openings through the floor every eight or ten feet. This is constantly bringing in fresh air. The transoms are also used for bringing in fresh air, being hinged at the bottom so as to throw the draft up. The windows are also hinged and can be opened if necessary. A sliding door at the top of the stairway and the feed chutes serves as outlet for impure air. This is a very simple ventilating system and it gives good satisfaction.

Brant Co., Ont.

F. WESTBROOK.

A Sparrow Hunt.

Editor "The Farmer's Advocate":

Having been a reader of "The Farmer's Advocate" for many years, I have read a number of articles in your columns on how to get rid of the sparrow, all of which have been tried with varying success. In our district we took sides, the seventh and eighth concessions to compete against the ninth and tenth concessions of Albion Township to get the most sparrows in ten days, the losers to provide a fowl supper. At first we tried shooting and various traps as suggested by

writers in "The Advocate," but finding these too slow, we sent a man around during the day to select barns for us and get the permission of the owners to go into the barns at night. We took ten men, placing two men with a lantern in each gable of the barn; then two or three men acted as beaters and chased the sparrows out of the hay or straw or wherever else they were roosting. They, of course, flew to the light in the gables, the rest of the barn being in darkness. In about twenty minutes the bulk of the sparrows in the barn would be caught. We got as many as two hundred and seventeen birds in one barn. At the end of the time the winning side had 3,972 and the losers 2,109, making a total of 6,081 sparrows. BERT MELLOW, Peel Co., Ont.

Cutter Riding vs. Automobiles.

Editor "The Farmer's Advocate":

In your issue of January 15, 1914, an article appeared headed "Cutter Riding," composed by Peter McArthur. As far as I am able to discern, the main lesson to be learned from perusal of the article is that good roads are a blessing and automobiles are a terrible nuisance. As far as good roads are concerned, we all admit they would be beneficial to every user of them, but I think that there are some at least who would not class all autos as a nuisance. I notice that before Mr. McArthur got home he had an accident caused by his own dog, and I expect to see an article next week on the dog nuisance, which would give a large field for one of his compositions.

I am a subscriber to "The Farmer's Advocate," and while not a farmer, am interested in anything that works for his welfare, as the farmer is the man most of us derive our living from, and, by the way, he (the farmer) would not fare very well if we, who are not farmers, did not consume his produce. I think as Mr. McArthur does regarding good roads, but I entirely disagree with him when he refers to all autoists as speed maniacs, etc., for while there are some people driving cars who are inconsiderate of everything and everybody except themselves, I don't think that all should be classed as such. I drive a car in my business and pay a special tax for using the roads, but I never take any chances of

causing an accident, nor have I ever yet seen an accident due to a horse becoming scared at an auto. I might say that I have driven a car nearly 5,000 miles the past year and I find that a large percentage of the people driving horses seem to think they have a right to the beaten track whether they have a load or not, but the law says that they have not, and they will stay there even after repeated warnings until the person running a car is in no frame of mind to give them much consideration. This does not include all who drive horses on our roads, but I would infer by the tone of the article referred to that the writer of that article from his antagonism towards autos might be in that class. The dog he refers to as scaring his horse, and thereby causing an accident, no doubt is related to dogs all over the country, for they seem to have a habit of running out and scaring horses, as well as annoying autoists. No doubt some day Mr. McArthur will own a car and then he will be able to see two sides to the question.

A CONSTANT READER.

Kent Co., Ont.

For Leaky Pipes.

Editor "The Farmer's Advocate":

I have seen so many "good things" in your valuable paper that I thought I'd just pass one on also.

Re "Leaky Pipes": If your correspondent will go to a hardware dealer and get a "sleeve pipe" and place it just above the length with the damper in, I think his troubles as to pipe "leaking" will be over. Keep the "sleeve" open when once the fire burns up well. It is a great saver of fuel also and an excellent ventilator. We have four stoves in the house and have "sleeves" on all of them and not a "leak" in one. The strong draft through the hole in the sleeve pre-

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vents the smoke condensing. Hold a lighted match in front of the open sleeve and see what happens. A CONSTANT SUBSCRIBER. Muskoka, Ont.

Northern Grown Alfalfa Seed Best.

Editor "The Farmer's Advocate":

Although a great deal has been written by leading agriculturists in the different journals advising that more attention should be given to the seed sown if the farmer is to reap the best possible results, yet there are many who give this very important matter little or no thought until they have suffered a severe loss. Then some will give up in despair and say, "It is no use," believing chances are against them, while others with a stronger determination will begin to investigate. It is only then that a grower realizes that he might have profited by other's experience, possibly that of a neighbor or by reading some good agricultural journal, such as "The Farmer's Advocate," in which very often in a single issue there are articles that in dollars and cents are worth the subscription for ten or fifteen years to the observant farmer.

Having had considerable experience with alfalfa, I wish to confine my remarks to it alone. While attending the Fat Stock Show in Guelph in December, 1911, I happened into the lecture-room while Prof. Zavitz was explaining the results of some of their experiments at the Ontario Agricultural College. Among other things, he spoke of the great importance of securing seed capable of standing our severe winter weather. They had proven by their experiments that Ontario-grown seed was giving best results. In giving results from seed grown under different climatic conditions, it was evident that those seeds from the south gave the most unfavorable returns. Having eight acres which had previously been seeded to alfalfa, and which was broken and a crop of corn taken off in 1911 which we intended sowing, advantage was taken of this information and northern-grown seed procured. About the first of May the ground, which was plowed in the fall, was worked to a good tilth, the seed (15 pounds per acre) with a nurse crop of Daubeney oats and Mandscheuri barley half and half, about one bushel per acre. However, our alfalfa seed ran out when about one-half an acre was still to sow. We secured the balance from a local seed merchant of equally as good looking seed in every respect, sowed under the same conditions. The early part of the season of 1912 was very dry and the alfalfa on the whole field was anything but promising. However, it was evidently living, for when the rain came it pushed right ahead, and after the grain was taken off you could not wish to see a nicer catch. No difference could be observed where the two varieties were sown, nor until the end of the season. Early in the spring of 1913 a difference was discernible. In the half-acre strip it appeared that at least one-third was killed, and during the growing season the plants that were left had an unhealthy appearance. The balance of the field was all one could expect. The dividing line was just as straight as the drill had been driven. So manifest were the conditions, that I concluded not to sow seed that I was not satisfied was home or northern grown, even if it could be secured at half price. Through being unable to secure the desired seed in 1913 we refrained from sowing another field which we were very anxious to sow to alfalfa. In sowing the undesirable seed we lose the price of the seed and the use of the field. I firmly believe this is one of the greatest reasons why so many have failed to secure good stands of alfalfa. JNO. R. PHILP. Grey Co., Ont.

A Round Barn.

Editor "The Farmer's Advocate":

I am sending you the photograph and plan of our new round-plan frame barn built in 1913. It is 68 feet in diameter and 216 feet in circumference. It has a silo 40 feet high in the center, 8 feet being cement upon which the sleepers rest. The remainder of the silo is built of wood. The roof is of metal. It is on a stone wall 20 inches thick. The building is cemented throughout and lighted with eighteen windows. The cow stable is fitted with metal fittings, consisting of twelve iron posts, cow rail and twenty stanchions. A fine big feed room will be noticed right around the silo. I have worked in many square barns, but none as handy as this. Another feature of this barn is that it went up so easy—no big raising. Five carpenters, myself and son and one neighbor did the work. D. A. CLENDINING.

York Co., Ont.

Results from the Use of Artificial Fertilizers on Roots and Other Crops.

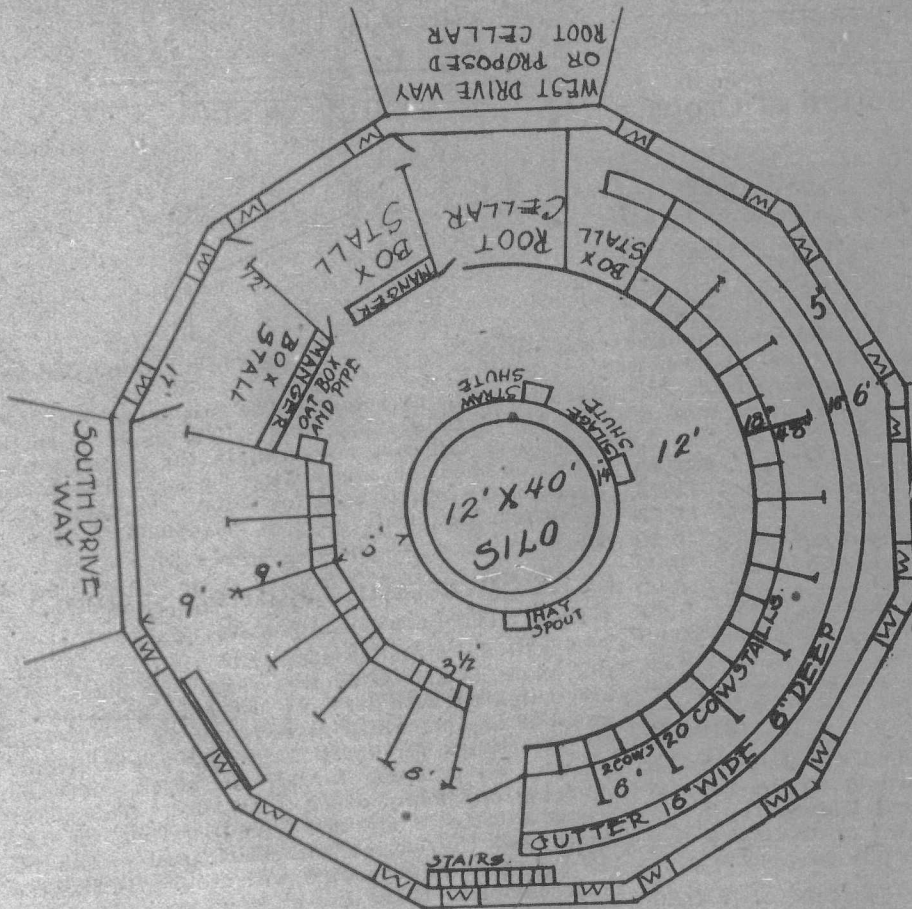
Editor "The Farmer's Advocate":

The use of artificial fertilizing materials appears to be spreading very rapidly among the farmers of the older provinces of the Dominion, and there is no doubt that as time passes they will become more and more of a necessity. The high price of labor, the rising value of land, and the increasing cost of production, render it more and more imperative that farmers obtain maximum yields from all crops. The scarcity of help very much limits the supply of barn-yard manure, and it is only by the free use of ferti-



A Round Barn in Course of Construction.

lizers that we can hope to give all the farm a taste once in five or six years. While no one can tell exactly what will suit any particular soil, without actually testing and finding out by experience, still we know in a general way what are the special requirements of the various crops, and with this knowledge and experience of others for a guide, we need not go very far astray. Last year the writer was discussing the use of fertilizers with a gentleman who was engaged in market gardening near Guelph. An agent of one of the large packing houses was trying to sell him some fertilizing material, but neither had much idea of what was most suit-



Plan of Round Barn.

able. Naturally the agent was partial to some of the higher-priced mixtures, and perhaps equally so the would-be purchaser thought the cost too high. The gentleman in question had an old strawberry-bed that he wanted to plant with potatoes or corn. Now, the decay of so much vegetable matter would set free considerable nitrogen, so that it would not appear necessary to supply any in the fertilizer. Nitrate of soda being one of the most expensive ingredients of most mixtures, and probably the commonest source of supply of nitrogen, its elimination meant quite a saving in cost. Finally a potash-phosphate mixture was purchased, the guaranteed analysis of which was ten per cent. phosphoric acid to five per cent. potash. Cost laid down at station, \$1.30 per 100 pounds. Two or three

weeks ago I met the same gentleman again and he reported results. A certain number of rows of potatoes were treated to an application at the rate of 600 lbs. to the acre. Other rows alongside received none. The crop was carefully dug and weighed, and it was found that the rows where the fertilizer was used yielded 80 bushels per acre more than the others. The cost of \$7.80 per acre for fertilizer made the cost of increase less than eight cents per bushel. Four rows of corn were treated at the same rate. Eight rows were sown without any. The corn was pulled green for sale, and careful count was kept. The four rows that received the fertilizer yielded more marketable ears than did the other eight that received none. An increase of 100 per cent. For all these increased yields, there was never any apparent difference between the fertilized and unfertilized, so far as could be judged by the eye, showing the absolute necessity of using the scales and measure. In this case no other manure was used. My own practice has usually been to use fertilizers along with a moderate dressing of barn-yard manure, and for roots this is probably the best plan. Many consider that potatoes are of better quality when grown without a direct application of manure; using artificial fertilizers only, and I believe equally good yields may be obtained, but of course a much heavier dressing will be required.

Using about twelve loads of manure per acre, 300 lbs. of acid phosphate has increased the yield of potatoes 70 bushels per acre; cost \$3.00, not four and a half cents per bushel. If for any reason I do not apply any barn-yard manure, then I use the potash-phosphate mixture. In 1912 a dressing of 800 lbs. of potash-phosphate (ten per cent. phosphoric acid, five per cent. potash) per acre gave me far and away the best crop of potatoes in the field, without any barn-yard manure whatever. The rest of the field received about twelve loads per acre, with from 250 to 300 lbs. of artificial fertilizer, various materials being used, some special potato mixtures, but mostly acid phosphate alone. One "potato special" was a complete failure, and another was of doubtful value as compared to the phosphate, although its cost was almost double. However, in the barley crop the next year, the "potash special" certainly scored, as the straw was fully six inches taller, and the strip where it had been used could be plainly seen across the field.

Many farmers imagine that the effect of artificial fertilizers is confined to the first year and to the crop, but this is a great mistake; they have a very marked effect on the succeeding grain crop, so much so that I believe it alone would pay the cost of the application. But it is not even confined to the first two crops; last summer, just when the timothy was heading out, early one morning while the dew was yet on the grass, I could see quite plainly, where the fertilizer had been used two years previously, and where it had been omitted. In this case the first crop was potatoes, treated to 300 lbs. per acre of acid phosphate, followed by barley, seeded down with clover and timothy, but clover was winter killed, leaving the grass alone.

For turnips, with a moderate dressing of barn-yard manure, acid phosphate alone will give splendid returns. Twelve loads manure with 300 lbs. phosphate sown just before the land is "drilled up," gave me from seven to nine tons per acre more turnips, than the manure alone. In fact I find from actual test that it takes about twenty tons of barn-yard manure to equal the 300 lbs. of acid phosphate. A very great advantage I find in using the phosphate for turnips, is that I can grow a full crop of oats after them. I know some farmers who have ceased growing turnips, because, as they say, they are so hard on the land, but it looks as though it was the phosphoric acid that they are hard on, and if an extra supply of this is furnished, then the land is in splendid condition to grow a big crop of grain.

Mangels are the only roots that I have found respond very distinctly to a mixed fertilizer than to any single element. Neither phosphate, potash or nitrate of soda, used singly, have had sufficient effect to pay the cost of application,

but a special mixture for roots, with a guaranteed analysis of three per cent. nitrogen, eight per cent. phosphoric acid, increased the yield seven tons per acre; while the potash-phosphate mixture, previously mentioned, gave just six tons of an increase at a cost of \$3.50. An experiment conducted at the same time, to try and ascertain the amount that it was most profitable to use per acre, while not at all conclusive, rather pointed to a moderate dressing as being the most profitable. The amounts used were at the rate of 250 lbs., 800 lbs., and 1,200 lbs. per acre, and three different fertilizers were used. One fact was very obvious, the increase from 800 lbs. to 1,200 lbs. was entirely thrown away, it having no effect whatever. In two of the series the increase from 250 to 800 lbs. only increased the yield one and a half tons; barely enough to pay for the extra fertilizer, and, therefore, not profitable. In the other the increase was over six tons, but in this case it was so large, especially when compared with the adjacent plots, that a doubt is thrown on its being all due to the fertilizer, and I do not put much weight on it. Had no barn-yard manure been used, it is probable that the larger applications would have given the best returns, but with it, it appears that from 300 lbs. to 400 lbs. per acre is likely to be the most profitable quantity to use.

Rape is like turnips, and a light dressing, 200 to 300 lbs. per acre of acid phosphate will give handsome returns. In a very dry summer, like the past one, it may make all the difference between a good crop and no crop at all. Acid phosphate seems to have a wonderful effect in extremely hot, dry weather; it will keep the young plants growing and healthy, when without it they would, many of them, perish altogether. I have noticed this effect on turnips, rape and millet.

On fall wheat, while potash and phosphate are each of considerable benefit alone, a combination of the two gives decidedly the best results. Nitrate used alone has little or no effect, but in combination with the other two, seems to be of considerable use in promoting growth while the plants are young.

The soil on which these results have been obtained may be described generally as sandy loam; a heavy clay soil would doubtless require somewhat different treatment, and a similar soil in some other district might also not respond just the same. There is room for much experimental work, and to those who have a taste for it, it will be found extremely interesting.

ALFRED HUTCHINSON.

Wellington Co., Ont.

Cost of the Production of Crops.

Editor "The Farmer's Advocate":

At the Short Course held during the first three weeks of January in Prince Edward Island the cost of the production of farm crops came up for discussion and the following was agreed upon as being fairly accurate for the whole Province. The average yield of oats in Prince Edward Island is about 37 bushels per acre, but a great many farmers are raising over 40 bushels, and for ease in calculation, it was decided to take 40 bushels per acre as the yield. For a ten-acre field, the ordinary field of the Province, the figures were as follows:

Rent	\$35.00
Plowing	11.25
Harrowing	11.25
Seeding	3.50
Rolling	2.00
Seed	15.00
Cutting and twine	9.00
Stooking	2.00
Storing	5.25
Threshing	12.00
Total	\$106.25

The ten acres were to yield 400 bushels, so that 26.6 cents per bushel would be the cost of growing oats in Prince Edward Island.

In the same way the cost of growing one acre of turnips was figured out as follows:

Rent	\$ 3.50
Manure	15.00
Plowing	1.12
Harrowing	.75
Ribbing	.50
Spring work	3.00
Drilling	2.00
Spreading manure	1.00
Seed	.60
Sowing	.90
Scuffling	1.50
Hoing and thinning	6.00
Harvesting	7.50
Total	\$43.37

In the case of the manure, 30 loads was to be put on the acre at \$1.00 per load delivered in the field, but it was considered that only one-half of it should be charged to the manure crop, which

would leave \$15.00, as stated above. Again, \$2.00 should be deducted for the hauling and spreading of the manure that is charged against following crops, so that the acre of turnips would cost \$41.37. The average crops in Prince Edward Island for the last few years has been about 600 bushels to the acre, so that the cost of growing turnips in this Province, as agreed upon by the students of the Short Course, is a little under 7 cents per bushel.

P. E. I.

T. R.

A Remodelled Barn.

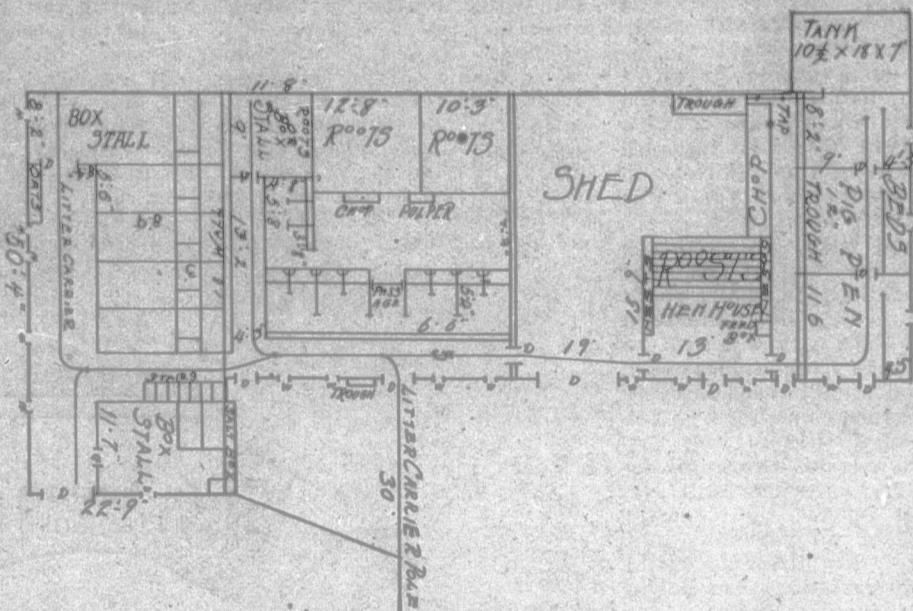
Editor "The Farmer's Advocate":

I am sending you herewith plan of barn and stables in use on the one-hundred-acre farm of A. J. Henderson, Durham Co., Ont.

The barn is built in a bank running north and south, leaving ground almost level with the floors. The barn was overhauled in 1908, there having been two separate barns, thus the stone wall partitions. Litter carrier is used in stables and slings in barn. There is a well west of barn with a supply tank beside it, which supplies water for basins in front of cows, and trough at cow stable door, water is pumped by a windmill. The cement tank, at the northwest corner of barn, which holds water off the barn supplies, tap in the pig pen and trough in shed.

The door in the horse stable is wide enough for a team to go through, while a three-horse team can go through doors in shed, which is handy when cleaning out with a spreader, as the shed is kept bedded and quite a lot of straw is tramped down.

There is a small door at east end of the pig pen for pigs to go through into yard. In the barn there is a V-shaped box with a pipe in bottom which goes down into hen-house, saving a



Plan of a Remodelled Barn.

lot of feed carrying. The box is at the east side of north granary door. There is a small mow over the east box stall in the horse stable, which is used for cut straw or corn. The house over the cistern is used for collars, blankets, etc.

Durham Co., Ont.

L. HENDERSON.

A Successful Lighting System.

Editor "The Farmer's Advocate":

I will describe our system of electric lighting. Our plant is known as the — lighting plant. We are delighted with it. We use a 2 1/2-horse power gasoline engine, which gives power enough to supply electricity for forty 15-candle power lamps. We also do pumping for all our stock and the churning and many other light jobs. This plant is an automatic starter. You switch on the lights and the engine will start, and switch off the lights and the engine will stop. It is the most complete thing I ever saw; we have a perfect light. The plant cost \$750.00. Then we paid for wiring the house and barn extra. We have thirty-five lamps, 15-candle power, in dwelling house, barn, stables, hog pen, power house and dairy building. I farm 300 acres of land, keep twenty-five cows, and we find electric lights more valuable in the barn and stables than anywhere else. We feel safe from fire, as electricity is much safer than coal oil. It costs about \$1.25 per week for gasoline as an average for the year for all purposes. I have a building erected between my house and barn, sixteen feet by thirty-two feet, with line shaft from end to end. This building is divided into three parts, with power house and workshop combined. Next to it in this is the dairy; then pump house and water tank. This plant has made farming a pleasure, instead of drudgery.

W. H. LOBB.

Huron Co., Ont.

A Lighting System Described.

Editor "The Farmer's Advocate":

I am pleased to submit to "The Farmer's Advocate" a description of my lighting system. I installed acetylene in my house and barn, because, if properly handled, I consider it the safest light that can be used, and when I say properly, I refer to its use in — generator, and the carrying out of the instructions given by them at the time of installation. These instructions are indeed very simple, and one cannot make any mistake in following them out as the generator is so constructed as to make mistakes impossible, and accidents could only occur if some person deliberately set about to destroy the working of such generator. Per candle power, it is even cheaper than kerosene. The fire insurance companies accept it as an A No. 1 risk and at no increase in the premium. It is the easiest known light, other than sunlight, on the eyes, because it is a pure white light, different from kerosene, or city gas, both of which give an abundance of red and yellow rays, which are injurious to the eyes. It does not vary in intensity, or in other words, does not go up and down, and therefore does not require a continual focusing of the eyes, which is the great cause of eye strain and kindred affections. It never goes out if the supply of carbide and water is kept up, where electric lights may during wind and electrical storms, or other conditions causing short circuit. It does not cause as much impurity in the atmosphere of the house as do most lights, as it gives off no soot, uses up less oxygen, and gives off less carbonic acid gas. It is easy to instal, no exposed piping, does not deface the walls, can be used the same as electricity with a push button to be put on and off, can be lighted downstairs and put out after going upstairs. In fact it can be used any way electric lights can. It cannot be turned too high, but can be turned down as low as desired.

In summer it has great advantages over city gas and kerosene, in the fact that it is a cooler light, giving off from four to eight times less heat than other lights, thus it does not heat up the rooms. It makes a splendid outdoor light as well as barn light. Its use outside or in the barn requires a glass globe to prevent its going out in the wind, and in the barn it prevents anything coming in contact with the blaze. No matches are required to light it in the barn, and does away with the lantern, which at all times is liable to be tipped over or exploded.

Plants thrive wonderfully in a house where it is used and silverware does not tarnish as with other gas lights. The gas acetylene is not poisonous, will not even produce a headache if allowed to escape, gives off no odor if properly installed, but if leaking gives off a strong pungent odor, which is a safety device in itself, and shows the necessity of fixing the burner or piping, and this same odor is sufficient in itself that one can follow it about the room and detect the very place from where it is escaping. It is said on good authority that an ordinary bedroom gas jet, if left open during the night, will not ignite if lighted in the morning after its escape all night. Nevertheless, acetylene gas is explosive under certain conditions, as are kerosene, gasoline, city gas, and so does electric wiring produce fire, but if properly handled, knowing that the above conditions are true, no danger can come from any of these forms of lighting, and least of all acetylene. The fixtures are made as all other gas fixtures, in very handsome designs, as domes for dining-rooms, three to six-light chandeliers, with handsome white or colored-glass globes, reading lamps, lamps for reading in bed, in fact every style and kind of fixtures that one could wish for and for this reason one can select according as his circumstances will permit.

THE ACETYLENE PLANT.

The generator that I have in use is the Model B. fifty-light generator, made by a company whose plant in Canada is situated at Niagara Falls, Ontario. At this plant are manufactured all parts as well as the complete generators and accessories, thus there is no delay in securing any extra parts if required, which is a great advantage to the user. The generator is a little larger than a large-sized base-burner coal stove, weighing about three hundred pounds, built of heavy galvanized steel, and resembling somewhat a large

milk can, with a smaller one inverted and placed inside, bottom up. Upon this so-called bottom, which forms the top of the generator, is a motor, which is wound up, and is run down with weights like the weights of a clock, as the gas is used from the generator; when the weights reach the ground, it indicates that the generator requires to be refilled. The motor and the weights operate the hopper, which is the receptacle of the carbide, and while the motor works, small pieces of carbide, known as nut carbide, are allowed, by the turning of the hopper, in which small runways are provided, to drop into the water. The dropping of the carbide into the water at once forms some gas and after so much gas, according to the size of the generator, is made the gas bell rises, and in so doing pushes up a lever attached to the motor, which automatically shuts it (the motor) off and no further gas can be made until it is used up in lights.

You may ask the question, What will happen, if such a thing could occur, as all the carbide in the hopper, which would be perhaps two weeks' supply, fall into the water at once, and a great amount of gas be made, which would cause intense pressure, and, you might think, a break in the tank? If this were to happen and the pressure in the tank become greater than that which is normally intended to be, which I think does not exceed from three to five pounds pressure, for the reason that about that many ounces is all the pressure the gas has in the pipes, nothing would happen, except that the excess gas made would pass out as soon as the pressure exceeded the normal into a pipe, which goes out into the open air above your house or barn, according to where the generator is located, and absolutely no harm could be done.

To fill the generator one has to place in it according to its size, pure water at a place provided on its side, after running out from the bottom the residue, which is a form of lime and water and one of the finest fertilizers known. Next put in the carbide, turn the gas on in the main by a lever, which is turned off while refilling, and serves to keep air out of the pipes and allowing no gas that would be in the residue (which is little, if any), to pass out of the safety pipe up over the barn or house.

My generator is in my barn, but in many places is put in a corner in a cellar of the house, but as I had no room in the house for it I put it in the barn, and built up an old coal bin, siding it up to the flooring above, and making it frost proof by lining it with pulp board, at a very small cost.

From the generator a main is taken off; this is inch pipe and carried at a depth of about fifteen inches underground to my house and there the different rooms are piped from it. In the barn I have four lights, although one is about all that is ever used at one time, and the main outside supplies my house and my father's house, about twenty lights in each house, making in all about forty-four lights.

The cost can be figured out as follows: A twenty-four candle power light, which is equal to three good kerosene lamps, will cost one-half cent per hour. The average house would burn three lights from four to five hours during the winter months and two to three hours during the summer, and taking as an average four hours the year around, it would cost six cents per night, or twenty-one dollars and twelve cents per year, which is much cheaper than kerosene, and no lamps to clean, with three times as much light in each room, from a twenty-four candle power light of acetylene. The carbide is bought in tins containing one hundred pounds at a cost of three dollars and a half per tin. The carbide is made by fusing lime and coke under intense heat in an electric furnace, and of late, I believe, coal is used rather than coke. The carbide, if thrown into a fire, will not burn, but if thrown into water will produce the gas known as acetylene.

In conclusion, I would like to say that I have used acetylene for over a year, and have found it absolutely satisfactory, and would not discard it for any other kind of light.

A. R. RUTLEDGE.

Middlesex Co., Ont.

The Road and the Farmer.

Editor "The Farmer's Advocate":

In the course of the next few weeks we will again be associated with the good-roads problem. It is a knotty problem, and nearly as popular as the high cost of living question, which, perhaps, has monopolized more space in our papers and magazines than any other subject.

In point of popularity good roads is a pretty strong runner, and this year it tends to be very much in the foreground among national subjects. Following the general rule, the magazines and newspapers will one and all enter upon a big discussion and debate regarding waste in general and the disgraceful condition of Canadian roads in particular. The result of these disclosures will greatly enlighten the public at large. We

will then know for a fact that the roads are bad, the country is dead, the government is dead, and that automobiles are the curse of the nation. It will be generally understood that the municipal roads system is a farce, and that the farmers take a good holiday every year when doing their road work. We will also learn that automobile owners are willing to give something toward road maintenance, and that in certain sections the county has gone so far as to improve a couple of miles of the King's highway. In addition to all this we will be somewhat surprised and discouraged to learn that the United States is improving miles and miles of country roads each year, and that the whole of Europe is laid out in one great system of finest macadam.

Various schemes from a big national highway coast to coast, to the simple neighborhood plan of applying shingle shavings to relieve the situation, will be fostered and offered to the public as absolutely new and original. During the spring months when the roads are at their worst, many schemes will be seriously considered and carefully put aside until "something can be done," and as spring goes on and summer comes again the schemes will be, one and all, forgotten and laid away "till next spring."

The writer does not wish to pose as a cure-all or anything of the kind, but it certainly does make me sore to have it said that the farmer does not try to fix up the roads, and that he has a good holiday while he is supposed to be doing his yearly road work. As a matter of fact, nearly every farmer in the country is at a loss to know just what to do to the roads in order that they will stand modern traffic. A method which gave very satisfactory results a few years ago is now of practically no value, and as stoning, etc., are too expensive to be considered, farmers have been forced to adopt make-shift methods to tide over a difficulty.

The only way out is for the government to step in and help. This could be done quite easily if people would only get together and work out some plan to finance the proposition. As an instance we will suppose that the government borrowed \$100,000,000 at 5 per cent. interest, and loaned it out in small sums to the different counties at seven per cent. to be used exclusively in road building, the roads would be built and in fifty years the two per cent. overhead charge would wipe out the debt, and the interest on the two per cent. as it gradually grew would pay for all office work, etc., and leave a good margin. This scheme may not be workable but it looks good on paper, and there seems no reason why it should not work. It will be admitted at least that something must be done in the near future.

J. C. INMAN.

Elgin Co., Ont.

Another Year with Sweet Clover.

Editor "The Farmer's Advocate":

It has occurred to me that the readers of "The Farmer's Advocate" would like to know something further about my work with sweet clover in general, and what we have learned during the year of its good and bad properties.

We have not discovered any bad qualities. In the first place, we have learned that all domestic animals become very fond of it as a pasture grass, although at first they do not appear to relish it, but readily acquire an appetite for it and in a short time become very fond of it and do not require anything else. Animals that have once acquired the appetite for it always take it the next year with great avidity. All animals take to the hay made from it at once. It does not bloat cattle like alfalfa. It does not winter-kill in this latitude, or die from drouth in summer. Its analysis is higher both in total and digestible protein than alfalfa. It is no harder to cure than alfalfa. We sow 12 pounds of seed per acre, preferably in spring, on fall-plowed land; it should not be covered deep. It will yield from 12 to 15 bushels of good seed per acre; we thresh with an ordinary grain threshing machine and then run it through the clover huller. If sown for the purpose of making hay, it should be sown a little thicker, say sixteen pounds to the acre. In cutting it for hay, it should be cut higher than alfalfa, as it does not sprout from the root like alfalfa, but from the stem of small branches. It will grow on wetter land or drier land than alfalfa or red clover. There is no doubt in my mind but sweet clover will, in a short time, be the means of all those abandoned farms we have read so much about lately becoming reoccupied and becoming sources of great wealth to this country. It is the greatest green manure known. It does not bloom the first year, but it does the second and then dies after producing a crop of seed. It will grow on the hardest or poorest clay, or the poorest sand; and by continuing to grow it on poor lands it will bring them into such a state of fertility that they will produce in abundance of the crops usually grown on farms in Ontario. We saw sweet clover growing September

1st last year eighteen inches high on a sand bank that used to move from one farm to another, a deed would not hold it; the sweet clover held it and now the one man thinks he owns it permanently.

The prejudice of the people against sweet clover is remarkable, and perhaps our agricultural colleges have had something to do with it, as I am told they class it as a weed, and such it is, as everything else is, when growing in any crop where it is not wanted. To the contrary, no other weed can live amongst a good crop of sweet clover, such as Canada thistle, sow thistle, mustard, rag weed, etc. It completely smothers them. The time is not far distant when agricultural colleges will be telling a different story or the farmers will be laughing at them. The colleges across the border have been investigating it and are loud in its praise. In my neighborhood during the past autumn you could not meet half a dozen farmers together that were not discussing the clover question; you would hear one man say, "Well, I have spent hundreds of dollars trying to get a crop of clover and alfalfa and it is all waste money, or nearly so," and such is the verdict amongst thousands of farmers all over the country.

I have before me the testimonials of one hundred farmers who can tell as much or more about sweet clover than I can.

WM. LINTON.

York Co., Ont.

THE DAIRY.

What is Your Herd Doing?

From 1900 to 1910 the average milk production per cow in Canada increased approximately 1,000 lbs. Even then it did not surpass 4,000 lbs. per year, which, to an up-to-date dairyman, is below the margin where profit begins. Included in these numbers, which make up the average, are cows producing seven, ten, fifteen and twenty thousand pounds of milk per year. This signifies that a host of mean, non-producers are in existence which bring the average down. This is not a lamentable condition if their owner be a wealthy man who has acquired an attachment for them, and the family would dislike to see them go. If they belong to a man who is struggling along, paying interest, high taxes, educating the children and trying to farm, then the conditions about his place warrant some transformation.

At the Dairymen's convention, at Cornwall, in January, a discussion arose about the net profit from cows. D. A. Grant of that community took from his pocket a table which he had been one year preparing. It was a record of what his nine cows had been doing. In order to obtain this information he had resorted to the scales and Babcock test, and that is the modern way of keeping accounts in the dairy barn.

In the accompanying table is conveyed the doings of the herd.

Two-year-old cows.	Lbs. milk.	Test.	Lbs. fat.	Value of milk.	Cost of feed.	Net.
1.	11,821	3.7	447.4	\$168.68	\$55.46	\$105.22
2.	10,435	3.6	374.1	138.41	57.18	81.23
3.	5,826	3.9	227.2	84.06	31.39	52.67
4.	6,902	3.5	241.5	99.35	36.00	63.35
5.	5,070	3.6	182.5	67.52	33.00	34.52
6.	5,406	3.9	210.8	77.96	34.50	43.46
Mature cows.						
7.	11,248	3.5	387.0	143.19	61.78	81.46
8.	9,852	4.6	458.8	169.75	53.10	116.65
9.	9,653	4.1	396.0	146.52	47.47	99.05

In order to arrive at the cost of feed Mr. Grant estimated silage at \$3.00 per ton in the silo; hay, \$10.00 per ton in the barn; pasture, \$2.00 per month, and the grain was worth \$1.25 per hundred during the winter of 1912, and \$1.47 in 1913. It is also necessary to state that the butter-fat sold at 37 cents per pound to a special trade, which is much higher than the ordinary price. Mr. Grant valued his skim milk at 20 cents per cwt., and set it against his labor. It amounted to \$99.45.

It will be seen by the table that no cow is giving less than 5,070 lbs. of milk, and that individual only a two-year-old. The mature cows are high producers, and their owner said, "I will keep no mature cow that will not give 7,000 pounds of milk in one year." This herd has been built up by testing and weeding out the poor individuals. When a cow cannot look at her record without shame in her face, she and her owner part company.

Keeping Cows Clean.

It is sometimes said that cows stabled during winter and fastened with the ordinary tie chain cannot be kept clean about the flanks and sides, but this is not the case, though more constant care will be necessary than with rigid or swinging stanchions, which prevent the animals from moving forward on the stall floors and subsequently lying in the droppings. Looking through the dairy stable of John Griffith, Westminster Township, Middlesex Co., Ont., lately, the cows, tied with the old-fashioned chains, were observed, without exception, to be as clean as the proverbial new pin and, by the way, giving a good account of themselves at the milk pail, being home-bred and well fed. Straw litter is freely used and the herd, which is not large, receives close personal attention, so that manure does not accumulate where the cows or heifers can lie in it. The cows drink from a "V"-shaped trough before them and are not turned out for exercise. From the bottom of the trough to the feed-alley floor is open space through which silage, fodder or grain is put into the mangers. To counteract the habit of the cows crowding forward and reaching after fodder on the alley floor, Mr. Griffith has a board front a couple of feet high the width of the double stalls, and which moves freely up and down, the ends being held in place in grooves formed with strips fastened on the stall head-posts. Directly overhead and midway at the front of each stall is a small iron pulley through which a strong cord lifts the front up or lets it down. When the feed is to be put in, the movable front is raised, and when the cattle begin feeding, it is lowered so they cannot get forward and the food is kept in the manger. This contrivance is simple and useful. In two stalls, where the cattle had a very persistent habit of still crowding forward, the device of having a wooden strip across, a few inches above them, attached to the back stall posts, is used. When they step forward and hump up the strip catches their spinal ridge and forces their backs so that their hind feet stand about at the edge of the gutter drop. The result of these precautions is perfectly clean hind quarters. The cows are also thoroughly groomed every day and their sleek, show-ring coats tell the story of cleanliness and good health. In what condition would a man be, tied up continuously in a stall three or four months without a wash, comb or brush? Mr. Griffith sends his milk to the powder factory and is well pleased with the returns.

POULTRY.

Feather Picking.

Many poultrymen have trouble from time to time with hens pulling or picking each other's feathers. This is particularly true of fattening fowls during the winter months. At certain stations in the United States, experiments have been conducted to overcome this vice in fattening birds. At one place two per cent. of linseed meal was fed with the ration from September 1 to November 5. The linseed meal did not appear to affect the results of fattening in any way. The chickens during this period dressed particularly well, and it is possible that this linseed meal made picking easier, but its use would not be profitable for this purpose. The object of feeding linseed meal was to see if it had any effect on the habit of chickens picking at each other. This vice caused considerable loss in fattening at times, but appeared to depend greatly on the condition of the chickens before they reached the packing house. Chickens which have not been fed well, or have been held for some time by the country merchant under poor conditions, are particularly subject to this vice, while in sections where the birds receive better care and are moved more quickly from the farm to the packing house, this habit does not cause any particular loss. Linseed meal added to the ration seemed to stop this vice, but the habit was not so widespread that a good test could be made. Either fresh meat or good beef scrap might prove of value where there was much loss due to this habit, but the remedy appears to lie largely in the use of better methods of handling the chickens before they reach the fattening stations.

Feather picking was more prevalent at all of the feeding stations in 1912 than it has ever been before. From two to three per cent. of waste meat and bones from local butcher shops was fed at irregular intervals during the season, but no consistent effect was noticed from this special feeding. Several lots were fed specially prepared mixed feeds which were claimed to prevent feather picking, but the results were inconsistent. The feather picking broke out during a period of cool weather, while the birds were eating ravenously, but stopped quite suddenly when the weather became warm and the birds were not so eager for their food. There appeared to be less loss due to this trouble where the largest

per cent. of buttermilk was fed in the ration, but feather picking cannot be entirely controlled by regulating the proportion of buttermilk in the feed. Less heating rations, or those containing a large per cent. of shorts and mixed feed and a small per cent. of cornmeal, make the best feeds for use in hot weather where feather picking is prevalent. The mixed feeds, however, produced chickens covered with small pin feathers, which resulted in a poorer grade of dressed product, and therefore made the feeding of the mixed feeds unprofitable as well as undesirable.

Profit from Turkeys.

Editor "The Farmer's Advocate":

One hundred and fifty dollars should not be a startling amount, even to a woman on a farm, but when she can produce it while she is doing all her own work in a busy season, anyone living on a farm knows what that means. My turkeys brought me one hundred and fifty dollars in cash last season at sixteen cents a pound live weight. Had I taken trade I would have received one cent more a pound, and had I bled and picked them the price was three cents more per pound, with feathers from three to five cents per pound. Besides that we had turkey for Thanksgiving, kept two for Christmas season and have two to kill yet. Shall keep eight turkey hens and one male bird over for this year, the same as I did last year.

Except for having some tramped in the nests before they were out of the shell, I lost very few. I believe the reason for so little loss was that they were allowed to roam after the young birds were a few days old. Young turkeys are not content if shut in a pen and are almost sure



Jersey Character.

to wear themselves out for liberty—it is like jail to them. If raised in the yard they make a general nuisance of themselves by getting under foot, for they will follow one everywhere possible. If allowed to roam, they are not likely to go too far away, if fed regularly every day. They are a benefit to the farmer, by destroying so many injurious bugs and insects.

If you watch a flock on a fine morning you will see them as busy as can be in a pasture or hay field picking grasshoppers, crickets, etc. They will destroy thousands of them in a day, and while this food is plentiful they will require very little grain, besides keeping the potato tops clear of bugs. They also seem particularly fond of the despised rag weed.

In raising turkeys it is absolutely necessary that they be kept dry and warm. In wet weather they should be housed in large enough quarters to give them room for exercise, they cannot stand crowding. The food young turkeys seem to like and which agrees with them as well as any other, is sour milk curds mixed with rolled oatmeal. There is no waste of oatmeal if mixed with the almost dry curd. Green food and insects they must have at all times.

During October, November and December the amount of corn and wheat a flock of turkeys will consume is quite an item, for they are great eaters. I fed wheat and oats night and morning, and through the day they went to the corn stooks and helped themselves. Although many farmers may think it pays to turn their birds off as soon as possible, I think it is profitable to keep them into December if the weather is fine, for they keep growing to the very last, and it is more honorable to sell a fat turkey than a poor one. If it pays to fatten hogs, then why not fatten our turkeys?

Lambton Co., Ont.

BROWN EYES.

The Little Gray Hen.

Editor "The Farmer's Advocate":

Let me introduce to the readers of these pages a mysterious little gray hen. I say mysterious because nothing is known positively of her origin. She was hatched in an incubator set with Barred Plymouth Rock and Single-comb White Leghorn eggs. As well as I could count the number of chicks hatched and the eggs remaining in the machine, she must have come from a Leghorn egg. She had the shape and comb of a Leghorn, but her color was unlike that of any other hen I have ever seen. The only possible clue I had was that I had heard a man who sold us the Leghorn eggs say that he feared a bird which had been brought into his flock had a touch of Rock in his blood. Possibly this might explain the peculiar shade. She was reared with a flock of seventy-two pullets, and, needless to say, attracted the attention of all who saw them. Great prophecies were made concerning her. So active was she, that one man said, "She looks as if she would not spend much time on the nest, as if she would hop right on, lay, and hop right off again." Part of this prophecy came true and when you have finished her story you will know which part. Another man (and an experienced poultryman) said, "She will be the first to lay in the flock." She was not. I am more convinced than ever that, while it is well to use what common sense we have and to profit by the experience of others who know more than we know ourselves, it is folly to prophesy concerning a hen.

I was always ashamed of that hen because she gave the flock a motley appearance and I felt that everybody was looking at her. There came a day when I was particularly ashamed. A person came to see some geese we had for sale and unfortunately noticed this hen. "Why," she said, "you have all kinds." People who take a pride in their flock do not care to be told they have "all kinds." Possibly some readers may be wondering if she ever laid. Yes, but very seldom. She laid about three eggs in the winter and then, apparently thinking she had done her humble part, took a long rest, not going back to work till the long, sunny spring days came, when she laid a dozen or so more, ruffled up her feathers and decided on a "complete rest" in the corner of a shed for three weeks. Of this idea she was at once relieved and after a few more weeks she made her final effort and laid a few more eggs. I feel quite safe in saying she did not lay in the year more than four dozen, if she did that well, and these were laid when eggs were cheapest, and I am very doubtful if she paid for her feed, for she had an extraordinary appetite. Where was the profit?

In July she set her heart on a new winter coat, the making of which required all the latter part of the summer and most of the fall, and I entertained a fond hope that she would redeem herself. The hope was blighted, for her work was evidently finished, and I decided to finish her days and make a splendid dinner. When she was dressed, however, I saw what had become of the feed she had consumed, as she was very fat.

Would that for the good of the poultry industry in Canada all other bred-to-no-special-purpose hens were boiling with her in one great caldron. It is not my purpose to draw attention to the individual hen so much as to the class of hundreds and thousands the "little gray hen" represents. During the year just passed the writer has had occasion to drive many miles in the county in which she lives and also in the one adjoining, very naturally noticing the flocks in farmyards along the way, but only about three can be recalled which showed any definite signs of having been bred with any special purpose in view. Many times have I wondered as I looked at farm flocks how many different colors might be counted there. Many have such peculiar shading that it is impossible to tell to what breed they have originally belonged. How old some hens look too! And have we not been told repeatedly by those who know that there is nothing but

HORTICULTURE.

Lawn Making and Hedge Planting.

Editor "The Farmer's Advocate":

ing but loss in keeping old hens? "Why," people say, "I have hens four or five years old and they still lay." How many eggs? Supposing they do lay three or four dozen eggs each year when eggs are most plentiful (that is when old hens lay) there is no gain. Strange, too, how sentimental some people are about their poultry. "Oh! I hate to kill the old hens that have raised chickens around the door; they are old pets; I can pick them up anywhere." If we wish to make a success of poultry raising we must abolish sentiment. Have you ever noticed that people who bring forward such arguments are not the best poultry raisers? They often crowd them into little, dark, damp, ill-smelling places, knowing that they are suffering with vermin. Why not all make up our minds now, while the year is still new, and the breeding season only a few weeks distant, to turn over a new leaf in our poultry business? As we look with disappointment and sometimes shame on the ugly blots on previous pages, may we not profit by them, at least to some extent? Why not note the hens now that lay earliest and look the brightest during the next six weeks? Take only these best for breeders. Possibly you may have an opportunity to buy a few settings from some reliable bred-to-lay flock. Then use your pullets from these on which to build a flock for coming years. Do not be afraid to invest two, three or even five dollars. You will not regret it next November and December when eggs are scarce and prices at their highest. While we may be listening to good advice of one who tells us to feed well and of another who may advise us to breed well, we must every year weed well. M. H. Northumberland Co., Ont.

Lessons Learned by Experience

The following conclusions were arrived at after a careful consideration of the outcome of the National Egg-Laying Contest, recently concluded at the Missouri College of Agriculture:

1. That there is no breed or variety amongst those in general use that far excels other breeds or varieties, so far as egg production is concerned.
 2. That more depends upon the strain or the breeding of a variety than upon the variety itself.
 3. That some hens have a born tendency to lay, while others have a born tendency to put on fat. It is, therefore, essential to cull intelligently.
 4. That it will pay the average poultryman to trap nest his flock in the fall and winter months, and to breed from the pullets that lay earliest in life, and from the hens and pullets that lay most in the winter.
 5. That hens like sprouted oats as well or better than any other kind of green food, and that they do well on it. It increases egg production and makes a cheap food.
 6. That the Mediterranean class can stand more protein and fattening foods than the larger breeds. There is not so much danger of them becoming too fat.
 7. That the Mediterraneans are affected more than the other classes of fowls, by extreme cold, on account of their larger combs, their smaller bodies and closer feathering, affecting their egg yield accordingly.
 8. That hens must be fed liberally if you expect eggs in large numbers, especially in winter.
 9. That hens lay a few more when males are not used in the pens with them, and that the eggs will keep better.
 10. That regularity in feeding is very essential for the best results.
- These are only a few of the most important lessons enumerated, and are well worth remembering.

Fattening Rations.

The best results of fattening poultry, as reported in a recent United States bulletin, were secured with the following three rations: No. 1, three parts of cornmeal, two parts of low-grade wheat flour, and one part of shorts; No. 2, three parts of cornmeal and two parts of low-grade wheat flour, and No. 3, five parts of cornmeal, three parts of low-grade wheat flour, one part of shorts, and five per cent. of tallow. The same feeding value is secured in a ration of three parts of cornmeal and two parts of oat flour, but at an increased cost of 37 cents per 100 pounds of gain. Four parts of cornmeal, two of low-grade wheat flour, and one of shorts gave very good results during the latter part of the feeding season, or in cold weather; that is, the proportion of cornmeal and low-grade wheat flour may be increased in cold weather.

Prepare for spring while the cold nor'wester is still with us, and be on hand to welcome to advantage the balmy breezes which find their origin in the shining haze hanging over the southern horizon as the days of seeding time grow warmer.

careful to pack the soil closely amongst the roots. I always plant any tree about twice as deep as they grow in their wild state. When the hedge is planted give it a thorough soaking with water, but "not well water"; then mulch with sawdust from four to six inches deep underneath and for three feet on each side of the hedge. This sawdust is to hold the moisture; if sawdust cannot be obtained, leaves will do as well. The first summer the trees will be taking root, and if the weather is very dry, they must be watered. In three or four years, when the hedge has taken root and started to grow, there is no danger in using plenty of stable manure along each side. This will make the hedge a darker green and give it a more vigorous growth, but it should not be placed too close to the roots. I have planted hedges in both spring and autumn and have had good success in both seasons.

Evergreen trees must not be removed until after the sap has done running, usually after the middle of May.

A spruce hedge is much easier to plant than a cedar and not so much trouble to keep trimmed, although it does not look as nice as a cedar. Spruce hedges should be planted in a single row, trees about four or five feet apart. When selecting the trees get them from two to four feet high and bushy, for once the limbs are destroyed on the bottom of a spruce tree, they never grow again. When the hedge is planted, water and mulch with sawdust, the same as the cedar. When planting spruce for ornamental trees or sentinel trees along a driveway or walk, select the trees that are very bushy and you will gain years in getting them trimmed into shape. Spruce hedges make the best windbreak and can be let grow twenty or thirty feet high before cutting the tops. I have a spruce hedge nearly two hundred yards long and about twenty-five feet high, trimmed to about ten feet wide. This hedge has grown so thick that no strong wind passes through it, and it is planted on the north-west side of the house, which makes a splendid windbreak, especially in winter.

TRIMMING HEDGES AND TREES.

After the first week in June evergreen trees and hedges may be trimmed. From June until October no harm can be done to either cedar or spruce by trimming, and if you wish to cut ten or fifteen feet off the top of spruce trees September is the best and safest month. In trimming a cedar hedge, the easiest way is to stretch a piece of binder twine tightly along the top, having stakes the same length driven in the ground at each end; also another piece along the side for a guide. Hedges are liable to gain in height unless heavy trimming is performed on the top. A good way is to have a stake driven in the ground near each end and inside of the hedge and do not allow the hedge to grow above these stakes. If you wish to have a spruce hedge four feet high, cut it three feet six inches high and let it grow again to four feet; it will be easier trimmed afterwards.

There are a great many different shapes to trim hedges, but I always trim mine with an oval top and vertical sides. This shape will not break down so easily with the snow in winter. I always rake the snow off the hedges after a storm unless the trees are frosty and then leave it on until a mild day comes. It is very important to clean the snow off cedar hedges, for if a hedge gets broken or pressed out of shape it will take all the next summer to grow it into right shape again. In trimming ornamental or sentinel

HEDGE PLANTING.

There are no trees in the world that make a more beautiful hedge than Canadian cedar. When removing the young cedars from the woods care must be taken not to destroy the main roots, but it is easier to replant if most of the soil is removed. The best trees to get are those from two to four feet high and bushy. A cedar hedge must be planted in two rows. Plow cut your trench about three feet wide, and start planting the two rows together, zigzagging the rows and placing the trees as close together as possible without crowding the roots. Be very



Beautiful Surroundings.

This is the manner in which Thos. Somerton, of Lanark Co., Ont., makes his farm home attractive.

trees, a true eye and a sharp pair of hedge clippers are all that is necessary. Get the idea of the shape you wish these trees and go to work on them, starting at the top.

THOMAS SOMERTON, JR.

Banner Convention of Nova Scotia Fruit Growers.

A more localized program, and a more general discussion of the problems confronting our Fruit Growers marked the fiftieth meeting of the above Association, held in Kentville in the heart of the apple producing area of the valley. The attendance was a record one, and was composed of men who were anxious to know more about their business. The opening meeting was held on Tuesday evening, Jan. 20th, and was addressed by Hon. G. H. Murray, Premier of Nova Scotia, who spoke of the great necessity of money in developing the resources of the province, and the need of co-operation among farmers and fruit growers.

Wednesday morning's session led off with reports, election of officers, and discussions. Some expressed the opinion that No. 3's should never be put on the market, on the assumption that such a prohibition would lead to more thorough spraying and thinning and the raising of better apples, and while it might for a few years mean perhaps a loss to the fruit growers, it would by improved quality more than compensate for the loss that would occur until better methods were in force. Others felt that No. 3 would always be purchased by people who would not buy No. 1 or 2, and that for this reason they would always find a market and be generally a source of revenue for the grower, but the general opinion was that something should be done to raise the standard of the No. 3 so that the buyer would know that he was getting a desirable apple. The ground was well taken, that if a smaller number of barrels of better quality No. 3 were put up, the net returns to the grower would be greater.

Prof. L. Caesar, of Guelph, gave an excellent address on the Apple Scab, and illustrated his remarks with charts or cards. He said in effect the season in Nova Scotia this year produced weather that was very favorable to the early development of scab or black spot, and while it would seem that the disease was on the increase we must not be discouraged, since we may not get as bad a set of conditions for years again. This year's experience might be a blessing since it would be the means of waking us up to greater endeavors, and experience had proven that thorough spraying would control scab. The factors determining the increase of scab were first wet and cold weather. The cold weather of early spring did not seem to check its development if the conditions of moisture were right. Second, the danger period of spot development was generally from the time leaf buds swell until fruit is three-quarter inches in diameter. Third, if the disease was very prevalent the previous year, of course, it will be carried on the leaves over winter, and if conditions are favorable will tend to increase the following year. Sometimes during a wet fall the disease will develop to a certain extent.

Results of Disease.—Injury to the fruit causing deformity and early decay, since rot will set in around the spot before it will on other parts of the fruit. If the fungus develops on the stem of the newly-formed apple, it will cause it to decay and seriously affect the quantity on the tree. The development of the spot on the leaves interferes with the proper performance of their functions, thereby lessening the vitality of the tree, and quantity of well-grown fruit it will be able to mature.

Character of Growth and Development.—The spore cases that have wintered on the ground leaves and back of the trees eject with some force the spores which lodge on the buds and small leaves as they are opening, for this reason the early spot is found on the under side of the leaf. This spore throws out roots which feed on the tissue of the leaf or fruit, and under favorable conditions spreads.

Control.—Since moisture is favorable to its growth and development, anything that will increase conditions, that will allow of more light and air among the foliage, planting fewer trees per acre, and on lands where free currents of air are possible, will aid in the control of the disease. Thorough spraying with a good fungicide is of course the most important direct means of control. As fungicides, lime sulphur and Bordeaux are equally good, though lime sulphur is rather the favorite, because of the greater tendency to "russet injury" from the use of Bordeaux. Prof. Caesar recommended the boiling at home of the lime sulphur on the score of cheapness, and gave very detailed directions as to its preparation.

Following this some of the most successful orchardists gave their experience in spraying and its results during the past year. These men had carefully compiled reports showing how, when and how many times they had sprayed, and

the percentage of No. 1's, No. 2's, and No. 3's, as they were packed out in the warehouses. These reports following the excellent address of Prof. Caesar gave renewed courage to those who had not sprayed thoroughly, and who, with the experience of the past two years, had begun to feel that black spot was increasing in spite of all effort, and that it could not be controlled. Our growers left this convention with the firm conviction that it can be controlled, and they are going after it next spring with renewed energy.

On Thursday J. M. Robinson, of the N. S. Experiment Station gave in tabulated form the results of spraying tests during the past year in three orchards in the valley. Here the results showed largely in favor of lime sulphur as against Bordeaux, and in favor of commercial lime sulphur as against the home-boiled article. Making the comparison between sprayed and unsprayed fruit a matter of dollars, it was found that while the cost of spraying was \$25.00 per acre, the gain from sprayed over unsprayed areas was as high as \$100.00 per acre.

Prof. Brittain, the newly-appointed Entomologist at the Nova Scotia Agricultural College, spoke on the control of apple aphids, giving their life history and recommending the preparation known as Black Leaf 40 as a spray for their control as being cheaper, and at least as effective as the emulsions, and also that while the emulsions had to be applied by themselves Black Leaf 40 could be applied with the ordinary sprays, and retain the efficiency and applicability of both.

The Maritime representative of the Entomological Department, Ottawa, P. E. Saunders, gave an excellent and encouraging report of the work done in fighting the brown-tail moth and San Jose scale for the past year, but by far the most vital and interesting address of the convention from a standpoint of benefit to the farmers in dollars was that of A. E. Adams, of the United Fruit Companies, of N. S. Mr. Adams outlined briefly the history of co-operation in other countries, making special mention of the wonderful strides Denmark had made agriculturally and industrially. He then gave the history of the co-operative movement in Nova Scotia, and the organization of these companies into a central organization which had already saved so many dollars for the pockets of the farmers, and promised more benefits in the future. The United Fruit Companies have not only saved for their members some twenty cents per barrel in expenses but by keeping in daily touch with the markets of the world have been able to sell or ship when the markets have been good, and hold when the markets are bad. A list of shipments to England showed that those boats which struck bad markets this year carried a comparatively small number of barrels for the United Fruit Companies, while they had a large proportion on the boats that struck good markets. The buying end of this organization is also saving the members' money in lower prices for fertilizer, feed, etc. The following resolutions were passed:

That we place on record our deep sense of the loss sustained by the fruit growers in the death of Alex. McNeil.

That because of the early date of holding the Provincial Exhibition, at Halifax, it is impossible to hold a creditable show of winter fruit, we recommend a revision of the prize list, cutting out winter fruit and offering larger prizes for early fruit.

That we recommend the appointment of a provincial plant pathologist.

That we ask the authorities to define a No. 3 grade of apples with a view of raising the standard of the present pack.

The officers for ensuing year are as follows: President, F. W. Bishop, Paradise; Vice-President, A. E. McMahon, Aylesford; Sec.-Treas., M. K. Ells, Pt. Williams. Executive, F. A. Browne; L. B. Chute; E. H. Johnson; L. D. Robinson. Delegates to the fruit conference of the Dominion in August, 1914: S. B. Chute; M. K. Ells; A. E. McMahon; W. W. Pineo, and S. C. Parker.

FARM BULLETIN.

A Foolish Fable.

By Peter McArthur.

Once upon a time there was a far country in which the farmers made their livings by raising geese and selling pate-de-foi-gras, feather beds and Thanksgiving dinners to all the world. Presently there came among them a number of wise foxes who reasoned with them in this fashion:

"You have altogether too many geese. By over-supplying the market you keep down the prices of geese and their products so that you do not get a proper return for your labor. Now we are prepared to eat enough of your geese to reduce the supply. Then, because geese and their products will be scarce prices will go up and you will prosper as never before. It is true that we shall benefit directly, but your indirect benefit will be greater than ours."

This new economic doctrine appealed strongly

to the farmers and they promptly voted that from that time the foxes should be privileged characters, entitled to help themselves from the too plentiful flocks of geese. When the time for marketing came it was found that the forecast of the foxes proved correct and these cunning animals went about pointing with pride to the fact that never before had pate-de-foi-gras and goose feathers brought such high prices.

But before many years had passed it was found that the privileged foxes had multiplied so rapidly that they were eating all the geese and in spite of the fabulous prices that prevailed the farmers were worse off than ever.

When matters were at their worst a wise old owl called the attention of the farmers to the fact that among the pampered and luxurious foxes there were many with black and silver skins, which would bring even better prices than geese in the markets of the world. Then the farmers saw a great light and they promptly turned all their goose pastures into fox farms and began supplying the world with black and silver fox skins. And they prospered as never before.

Moral: Now that Canadian farmers have taken to fox farming there is hope that they will soon turn their attention to the privileged manufacturers, bankers and others who are at present fattening on the country.

Education Rather than Co-operation.

Editor "The Farmer's Advocate":

An article in a recent issue of your journal entitled "Get Together," by Constant Reader, calls for some comment. He is evidently a well wisher of the farmer, but, as he himself suggests is possible, his arguments are not altogether logical. His plea is for co-operation among farmers, who, he says, are competing with one another, keeping prices down, and so robbing themselves and their neighbors of their just dues. Then further on he says the co-operative society may be used as a means to reduce the cost of living. There is only one way of reducing the cost of living, and that is by bringing down prices all round, and I don't think any combination of farmers are going to fight very hard to accomplish this. It is upon the price that the ultimate consumer pays that the producer must depend, in the long run, middleman or no middleman. Witness the fancy prices paid to the owners of beef cattle at the present time, simply because the consumer is willing to put up the money to get what he wants. No amount of co-operation will establish a permanent market. It must come through a natural demand on the part of the public. This explains the comparative failure of these organizations among farmers in the past. They failed to control the market and the expectations aroused were not realized, simply because they had not taken into account the law of supply and demand. You cannot make a man buy more than he wants of an article by raising the price of it, or even by holding it at the former level. The only way to increase the consumption of an article is to better its quality or reduce its price. That is working up for permanent results.

Take the Canadian cheese business, which your correspondent mentions, as an example. Why has it found New Zealand such a formidable rival in the effort to hold the English market? Simply because New Zealand sends in a well-cured cheese, of good quality, at a price regulated by that quality. I am not trying to work up a case for the middleman, who, I have no doubt, tries, as a rule, to make all the profit he can legitimately out of every transaction he is engaged in. But what I say is, that the middleman cannot, for any length of time, control the producer's market. And the cheese business, just mentioned, is proof of that fact. Contrary to the general opinion, the price of cheese is not fixed by the buyers at the leading cheese boards of the country. For instance, a Montreal commission house gets an order from a firm on the other side for a certain amount of cheese to be shipped at once. To get this cheese they instruct their buyer to pay a shade over the market price, if compelled to do so by the salesmen. As a consequence the level of prices is raised for other buyers must come up to the advance or do without cheese. In this way a strengthening of the English market is at once reflected on our own, and the producer gets the advantage, not in spite of the middleman, but because of him. As to the profits made out of the business at the present time, I have reason to believe that those engaged in it, apart from the producer, are not making more than a safe business system would warrant. The fact that Canadian cheese is retailing in our own cities at two cents a pound more than it is on the counters of the retail merchants in Liverpool and other towns of England would indicate this.

A curious statement is made by your corres-

pondent when he says that Canadian cheese was being delivered in England unreasonably short in weight, for which he goes on to blame the middleman. Now, anyone who knows anything about the business, knows that the weights of the cheese are stencilled on the boxes in the factory, and when the returns from the commission houses do not give full credit for these weights the farmer is the first one to complain. Should one of these houses persist in cutting on weights, so that they might ship full-weight cheese to the English wholesaler, they would inevitably lose the patronage of the farmer, and thus be forced out of business. Now, I am a practical farmer, not a middleman, but I want to see fair play. To my mind, some sort of a go-between is necessary in the transfer of produce in which this country is so largely engaged. The present condition of commercial life demands it, and if the middleman is a necessity, why should we object to his making a reasonable profit out of his business? Some men of this class who do an exceptionally large trade are wealthy. We must admit it. But would all the producers with whom they have dealt have reached the market they did if it had not been for said middleman? Unquestionably they would not, so there the matter stands.

Another word re co-operative societies. The discouraging failures that have attended efforts along this line in the past would indicate that possibly practical and permanent results cannot be had by organizing farmers in a scattered community into social clubs or secret political societies. Enthusiasm gradually dies down, and the last state of the place is worse than the first. The fact that farmers do live in this scattered condition probably accounts, in part at least, for the statement that they can never hang together and will never organize with success. The labor union of the city has an advantage in this respect. The leaders and members are in continuous contact with one another and interest is sustained. They have, further, but one thing to sell, which is their labor, so harmony of ideas and unity of action are more easily secured than among a class whose interests are so varied as is the case with farmers.

It would seem then that the farmer's success must be an individual one, to a large extent at least, and if this is so, the one thing that will help him to accomplish it is, that which will make him appreciate more fully his chosen profession in life, viz., a good general education. This is not impracticable, even for the man of middle age, in this twentieth century, when all kinds of knowledge are almost forced on one through the medium of books, papers, agricultural reports, and so on. But it is even more possible for the young person of either sex, and a thorough school and college education should not be thought too good for any farmer's son or daughter, whether they are to stay on the farm or not, and especially so if the former is the case. For the man on the farm should know why he does a thing, as well as how to do it, and if education puts him in a position to accomplish this end, it does for him more than any co-operative society is likely to do, for it makes farm life of peculiar interest and a source of happiness as well as profit.

J. E. McINTOSH.

Glengarry Co., Ont.

The Hired Man's Viewpoint.

Editor "The Farmer's Advocate":

In your issue of January 8th, there is an editorial in which you say that the farmer works longer hours than his hired help. This statement has been repeated so often that many of your readers will probably take it as the general rule, but, as a hired man, I can say from experience that such is not the case. Both as regards myself and every other hired man I have had the opportunity to notice, the positions have been reversed. I have almost always had to be up first, and finish work last at night. Many times I have been left to finish a field in spring work, which my employer knew would keep me late, while he went to town, returning about ten or eleven o'clock at night—that is after all chores were finished by me. In one instance I was stopped money for two half days, and one whole day which I had off between 25th March and 15th November, those being the only holidays I had.

The same state of things obtains with my wife. No consideration seems to be shown. The farmer's wife will, for instance, do some more or less fancy cooking and leave my wife to clean up after her, or slop water over the floor and just leave it. If it is not cleaned up at once the children will most certainly tramp it all over the house. And so on in an almost endless list of ways of causing trouble. All this is not written as a kick, but merely to show that the farmer does not get altogether the worst of the bargain with his hired help. There are doubtless bad points on both sides.

This is our second annual engagement, we having hired by the month before, but I can safely say it will be the last unless we can find something like your cartoonist has set forth on page 49. That most certainly is a good idea, but how few farmers have adopted it!

I have read with much interest the articles by Mr. Klugh. Can he offer any explanation of a peculiarity I have noticed in the West? When the western sky is all over a light-golden color at sunset there will invariably be a strong, westerly wind the next day. This wind will in all probability not begin until about 9.00 or 10.00 a. m., and will go down with the sun.

Assiniboia, Sask.

SCOTTIE.

Needs of a Telephone System.

Editor "The Farmer's Advocate":

The telephone is such a great convenience on the farm that we can hardly conceive how we would get along without it. If the doctor is required through the night, we can call him by 'phone, and he can be at our home in half the time it would take to hitch up and drive to his place and return. In many parts of the country farmers are, no doubt, getting good service from the telephone, but in a great many others the service is very poor indeed. In our township we have no fewer than five different local telephone lines doing business, some of which do not interchange without a toll of five cents, and each line has a separate central. A farmer may have a brother only a short distance away on a different line, and he has great difficulty in getting him.

The telephone is a public utility like the post office. Now, what kind of a postal service would we have if it were managed by five different companies in, say every county, not to speak of the small confines of a township? Why we would say it would fall very far behind our present government-managed postal service. In Great

to find out what it is worth to us. And to many the government-managed telephone system would be a good deal less expensive than the present complicated, cross-purpose local telephone systems. Why, in our village the doctors and businessmen have to pay for no less than three different telephone systems in order to keep in touch with their patients and customers.

Oxford Co., Ont.

D. L.

A Comparison.

Editor "The Farmer's Advocate":

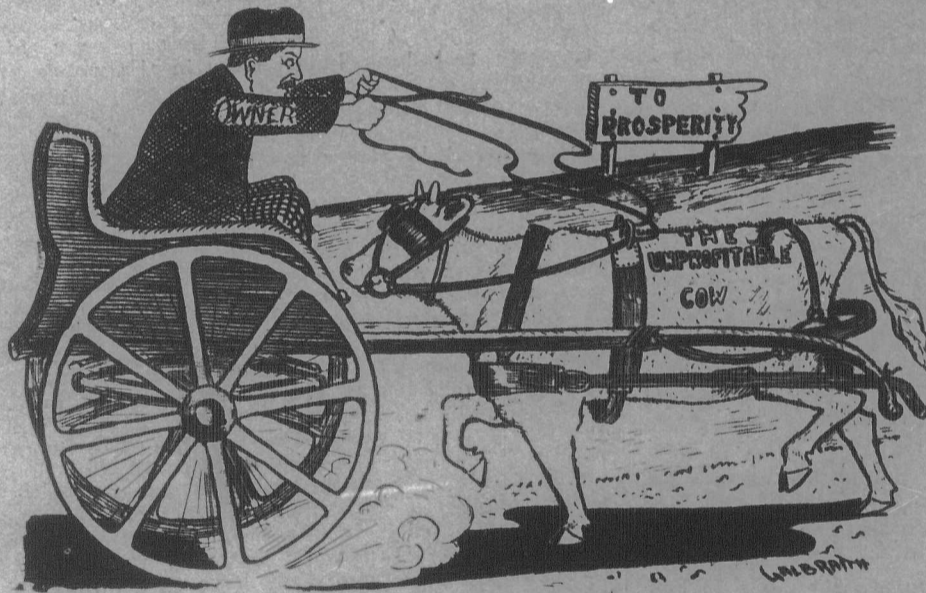
Ten million dollars given in one year by an automobile firm as bonus to its employees, ten million dollars given by the Canadian Government to promote agriculture for the next ten years—this illustrates the conditions as they exist to-day. On the one hand, a rich and protected manufacturer, catering to the ever-increasing demand for luxuries; on the other hand, a lawyer Government, controlled by the big interests, giving the farmers a consolation prize, so that they feel they are getting something. And they still keep on complaining about the high cost of living. Let us see whether there is such a thing as high cost of foodstuffs, according to the American standard of living. I cannot see it. The trouble is, the public, from the millionaire down to the workingman, want all their money for luxuries and amusements and begrudge the farmer a decent price for the necessities of life. Let us compare our scale of prices and wages with those of the Old Country. I cannot speak of England, but will take Germany, my native land. The ordinary workmen get about 85c. per day, and foodstuffs are: Beef, 20c. to 25c.; pork, about the same; butter, 30c. to 36c. per pound; even margarine is 22c. per pound; potatoes, 90c. per 100 pounds. So, you see, food is as dear there as here and note the German wages of 85c. and the American of \$2 and more for unskilled labor.

Of course, clothing and manufactured goods are cheaper there, as the industries have little protection and of course cheaper labor. I think the American town dweller has little right to grumble compared with his European cousin. What is bringing over the immigrants? More money and better prospects. I think the American farmer has the disadvantage compared with the European, as the farmer has the higher wages to pay.

Dr. Rutherford, in his article on "Farming in the Lothians," tells us of higher prices of food 40 years ago in Scotland than even now and probably the wages were still lower then. He

tells us of the laborers getting bread, milk and porridge. Offer that to a workingman nowadays and see what would happen. The workingmen to-day live better than most of the farmers and don't work as hard, nor do their women folk either. They can play the ladies, while their sisters in the country plow through snow-drifts to milk the cows and feed the hens and gather two or three eggs, which, at 50c. per dozen, just about pays the feed, the labor and trouble thrown in.

I have five milk cows and have started a milk route to town, five miles away, keep two horses, and work 14 hours a day. And, the women have to help, and we earn about three dollars per day. I have to buy feed on that, keep things going and have a little over. Many a man in town earns that alone in a ten-hour day, with nothing invested. I am contented; my business is growing and things will be easier soon. My cows give about 6,000 pounds of milk per year, for which I get 8c. per quart. But if I had to make butter or sell the milk to the factory I would make about \$6.00 a week, and not even that, as I could not buy meal at \$28 per ton. But thousands of farmers have to do it. There is some money in it if you have good cows and the right equipment, but how many have it? They are striving for it, but it takes years of hardship and privation to get there, for there is no cheap money for the farmer to borrow. He has to wait and work for it. I am willing to do this for I like my work and a good many others do the same, but the majority go to town, where it is easier. I am aware that a Commission is at work investigating the high cost of living. That report will never be complete until one of the gentlemen goes, for one year at least, as a farm hand, on a farm that has been run out through the folly of past generations and helps



How Long Will It Take Him to Get There?

to do chores around an old barn and helps the farmer's wife to care for the sitting hens, chase the turkeys when a shower comes and lug water for her from the spring below the hill, in a snowstorm, then he would know why the young folks leave the farm. Only famine prices will drive the people back to the land. A pound of axle grease is worth 20c.; I think 50c. would be a fair price for a pound of butter. But things will rectify themselves and the farmer's day is coming. Rest easy. Give the calf plenty of rope and it will choke itself.

FREDERICUS AGRARIUS.

Northumberland Co., N. B.

Note.—The reference to the grant to agriculture does not take into consideration the regular grant but only the special \$10,000,000.—Editor.

Parcels Post for Canada.

The parcels post system which has been under consideration for some time is likely to be inaugurated early this month. The Hon. L. P. Pelletier, Postmaster General, has announced that the preparatory work in connection with rates, zones, etc., has been completed. The system has been simplified in so far as it is possible for the beginning. For each province there will be a special rate printed on a card, and from which the postmaster can see at a glance the local rates for forwarding parcels.

Our readers will be interested to know that in the Province of Ontario to any post office within 20 miles parcels weighing one pound may be sent for 5c.; two pounds may be sent for 6c.; three pounds for 7c.; four pounds for 8c.; and 2c. for each additional pound up to the maximum, which is at present placed at 11 pounds. To any post office beyond the 20-mile limit, but still within the province, the rates will be in the beginning, 10c. for one pound; 14c. for two pounds; 18c. for three pounds; 22c. for four pounds; 26c. for five pounds, and 30c. for six pounds; seven pounds going for 34c.; eight pounds for 38c.; nine pounds for 42c.; ten pounds 46c., and eleven pounds for 50c. Parties in Ontario wishing to send parcels to Quebec may do so at the following rates: one pound, 10c.; two pounds, 16c.; three pounds, 22c.; four pounds, 28c.; five pounds, 34c.; six pounds, 40c.; seven pounds, 46c.; eight pounds, 52c.; nine pounds, 58c.; ten pounds, 64c.; eleven pounds, 70c. To any post office in Saskatchewan, one pound goes for 12c.; two pounds, 20c.; three pounds, 28c., and eight cents extra is added per pound until the eleven-pound limit is reached. One pound may be sent to Alberta for 12c.; two pounds, 24c., and ten cents per pound for each extra pound up to the eleven-pound limit. To any post office in British Columbia one pound goes for 12c.; two, for 24c., and 12 cents per pound for each extra pound.

The first three months of the operation of the system will be an organization period, and during this time an additional fee of five cents is to be charged on parcels mailed for local delivery by the carriers. The zone system adopted divides the Dominion into seven provincial zones, the Maritime Provinces being joined together to comprise one.

In sending a parcel across the continent there is an additional charge for each zone or province through which it passes. The 20-mile limit in the local division of the system is especially designed to protect the small merchant against competitors in the large cities.

This is a beginning. The eleven-pound limit will be great enough to help farmers to some extent in marketing small consignments of such products as butter and eggs, and as the system grows there is no doubt but that the limit will be materially raised to the benefit of producer and consumer. Our readers will watch with interest the working out of the new system.

Sign Your Name.

Week after week we are obliged to cast to the waste-paper basket many letters of enquiry and several articles written for "The Farmer's Advocate," owing to the fact that the writers neglect to sign their full names and addresses. Initials are of no use and the full name without the address meets the same fate as the letter with the initials and the address. We do not like to discard good material, but must do so. We would urge again that greater care be taken when writing to the paper to have the full name and address on every letter sent in. We have emphasized this before, but it seems necessary to repeat the warning. Your initials are not enough; we must know who you are and where you live.

Sap Days in the Townships.

Editor "The Farmer's Advocate":

Driving over rolled village roads in mid-winter one sees above the foothills snow-crowded peaks, the mistiness of whose blue-print shadings proclaim their remoteness. They are the finest sugar bushes in the maple sugar belts, which in America are confined to the south-eastern section of Quebec and to the States of Vermont and New Hampshire. When the hours of sunlight become perceptibly longer, and the ragged quilt of snow is slipping from foothill and peak, when crows come prospecting northward, and the air out of the south breathes the life of spring, sap days begin.

"I do not know what the philosophy of it is," writes John Burroughs of 'sugaring' weather, "but it seems a kind of seasaw, as if the sun drew the sap up and the frost drew it down, and an excess of either stops the flow. Before the sun has power to unlock the frost there is no sap, and after the frost has lost its power to lock up again the work of the sun there is no sap. But when it freezes soundly at night with bright, warm sun next day, wind in the west and no sign of a storm, the veins of the maples fairly thrill."

In some progressive localities farmers take the initial step early in the winter, when they drive the big wooden roller through the woods, packing the light snow into a firm foundation against the soft 'getting-in' roads of thawing spring days. This is repeated after each heavy snowfall, and when sugaring comes early or the snow in the woods is deep, more than repays the trouble. For, as Leonides Hubbard once said in describing the trapping of moose on spring crusts, there is nothing so like ball and chain punishment as travelling when you sink in at every step and feel your feet drawn down with the leaden weight of wet snow.

There are certain things about sugaring that one has never been told, but has come to know by a sort of intuition. Such as that one always taps on the south side of a tree, making "bores" from one and a half to three inches deep; and that the tall, long-limbed trees in the woods are productive of a larger yield of sap than the more bushy-topped ones in the open; and that the first or robin "run" possesses a delicacy of flavor not to be found in either the frog or the bud-run—named respectively from following hard upon each of these spring harbingers. Sugar made from it is a light golden brown with sides that sparkle as if sprinkled with mica dust, contrasting in color, flavor and excellence with the dark confection covered from the bud-run into tub sugar.

When the sap runs well, which is at the rate of about seventy drops to a minute, it keeps one man busy emptying the wooden or tin buckets into the horse-drawn receptacle, which is in its turn poured into the storage tank, automatically feeding the evaporator within the sugar shanty. Through the successive, corrugated divisions of this long shallow vat the sap passes till it is ready to be drawn out as syrup at the lower end. When it has been poured into the shiny, labeled tin cans it is ready for market, the price ranging from sixty cents to a dollar per can, according to the "make" that season.

One time-honored mode, now no longer in vogue, of testing the boiling sap to see if it was ready to be stirred for sugar, was to tie the supple twig of a birch into a loop, dip it into the evaporator until the psychological moment arrived when bubbles could be blown through the film which formed in the loop. Another test was pouring a ladleful of syrup into a mould contrived by thrusting your finger into a little heap of packed snow till it congealed in a finger sugar. Even in these days of thermometer testing accuracy every bush has its traditional customs, and, during the "runs," sweet-toothed visitants enough to drive a stingy man crazy.

They come on foot, in sleighs, and in buckboards, and run the gamut from school children to desiccated old age. In a week or two it will be time to begin ploughing and getting in crops, but for the nonce it is enough to smell the spring in the sun-quickened grass, to hear the crows answering one another in antiphonal chorus, to follow the gray-livered maples up to the little unpainted sugar shanty in a fold in the hills. Here, supplied with goodfellowship as well as pans of snow ribboned round with golden wax, replenished till even recourse to pickles and cod-fish fail of their mission to resuscitate waning appetites, one is inclined to sympathize with that native of the Emerald Isle, who asseverated that he found the sugar-making industry so much to his liking that he thought seriously of following it the year round.

Brome Co., Que.

HELEN C. WILLIAMS.

Dr. F. Torrance, Veterinary Director General, informs "The Farmer's Advocate" that a Ministerial Order has been passed prohibiting, for a period of six months, from January 14th, 1914, the importation or introduction into Canada of any hay, straw, fodder, feedstuffs or litter accompanying horses from Continental Europe.

Believes the City a Moneymaker.

Editor "The Farmer's Advocate":

The articles in your valuable paper about young people leaving the farms to try life in the cities are intensely interesting. Any matter that provides thought for the majority of the race is evidently associated with more than a usual amount of importance, thus it often occurs that this importance will more readily fasten one's attention upon things than anything else. After thinking over this matter, I have come to certain conclusions which, while they may not be correct, will perhaps provide some amount of interest for other people.

Perhaps one reason why so many young men don't wish to farm is because the start is too expensive. This may suggest a satisfactory prospect for the person selling, but for the buyer it creates a difficulty not at all easy to overcome. There are, I believe, a large number of men who would willingly farm if they had more capital. Purchasing the farm is, of course, only one of the big items in the intending farmer's expensive program. When the price of stock and machinery are taken into consideration, I am not surprised that so many young men decide not to farm.

Again, it appears to me that the average farmer's son has no desire, let alone intention, to make what I would call a moderate or economical start in business. It is natural with all of us to "have the best," if possible, and I wouldn't blame any ambitious young person for leaving farming alone if he thought it necessary to drain his purse and impose upon his muscles to engage in it. Then, too, many young men can see that they must work hard for many years before it is at all possible for them to start for themselves, more especially if they are members of a large family.

Considering the cash returns for the farmers' products, after allowing for all expenses, remembering the long time he waits for such returns, I cannot see that his life would be so much happier than a man earning good wages in the city. Compare the working hours of and the amount of money earned in such time by the man on the farm and those working in the cities, then I think it will be seen that the farm man need not laugh quite so loudly after all.

The chances for improving education are certainly greater for the man in the city; he sees more, hears more, and so becomes more than the man on the farm. Likewise, the chances for occupying important public positions are also more in favor of the city man, because if a man desires to fill a public office he must become acquainted and interested in public affairs and to do so he must get where the greater part of public affairs are attended to which is, undoubtedly, in the towns and cities. I think the majority of men who occupy important public positions have secured those positions through contact with or experience in the cities. Allow me to conclude my statements by asking two or three questions which I will leave for people to answer as they think best. I would like to know why so many men are leaving the cities and purchasing farms at a much higher price than the present majority of farmers are prepared to do? Could such men have made as much money in the same time if they had never gone to the city? If the open country life is so intensely interesting, how is it that the land nearest a town or city should be worth so very much more than land situated in any other part of the country, and be so eagerly sought after by intending purchasers?

Which would really prove most advantageous for the average Ontario farmer, improved transportation facilities for the marketing of their products or for the Government to enact such laws as would improve by one hundred per cent. the condition of employees on Ontario farms? These are some of the thoughts passing through my mind on this somewhat perplexing subject.

J. H. ROBINSON.

Peel Co., Ont.

Cutting Down Expenditure at Ottawa.

The estimates for the fiscal year 1914-15 have been laid on the table in the House of Commons at Ottawa. The most conspicuous feature in these estimates is that a reduction has been made in several departments, which makes the total sum twelve million dollars lower than that for the previous year.

Last year the grand total was \$202,656,166.59, while the total for the coming year is \$190,735,176.42. The largest decrease is under the head of public works, being over three million dollars. Naval service appropriations are decreased by \$150,000.00 and railways and canals by over \$138,000. There is a slight increase in militia and the miscellaneous expenditures are also cut down. One of the largest increases is that for agriculture, being \$1,266,500. The post office department also gets an increase of \$1,911,846.75. There is a slight increase in

subsidies and immigration. It is also planned to keep the supplementary estimates down so that expenditure on the whole should be curtailed. Of the estimates for agriculture the detailed votes include \$775,000 for experimental farms, which is an increase of \$110,000. Fifty thousand dollars is set aside for the enforcement of the Destructive Insect Act; \$225,000 for the development of the dairy and fruit industry. To encourage cold storage \$200,000 is to be expended. The health of animals branch gets \$500,000, and the administration of the Meat and Canned Food Act is to be effected at a cost of \$240,000. Four hundred thousand dollars is set apart for the development of the live-stock industry, this being an increase of \$200,000.

Under the Agricultural Instruction Act the Provincial votes total \$800,000, Ontario getting \$230,868.83; Quebec, \$187,409.16; Nova Scotia, \$61,144.45; New Brunswick, \$49,407.20; Prince Edward Island, \$27,832.81; British Columbia, \$52,799.38; Manitoba, \$58,075.45; Saskatchewan, \$61,152.31; Alberta, \$51,310.41; Veterinary Colleges, \$20,000.00.

Meeting of the Western New York Horticultural Society.

Canadians may well afford to watch the manoeuvres of the Fruit Growers of New York State. Oregon and Washington are constantly being brought to our attention through their organizations and excellent pack, but their product is only a drop in the bucket compared with the output of the Empire State, whose average annual production from 1899 to 1910 was 5,122,250 barrels.

The Western New York Horticultural Society held their 59th annual meeting in Rochester, New York, on Jan. 28th, 29th and 30th, 1914. This is the great annual "get-together" event of the season in Western New York, and this year it was a profitable one indeed. Conventions representing agricultural interests in Eastern North America are usually characterized by the enthusiasm with which the members adopt new ideas and persistently neglect to put them into execution on their own farms when they go home. But the very condition that Western growers, by exploiting their plans, conceived by a body, to be executed by the individual, are able to find their market in the very center of the East after paying a transportation charge of 50 cents a box or \$1.50 per barrel is coercing the Eastern grower to remember a little, at least, of what he so thoroughly understood at the convention.

These changing conditions with our neighbors to the South, combined with their enormous annual yield, render them not only influential in Eastern North American markets, but number them as a strong competitor in the markets of the world. They, too, are seeking to make foreign countries a market for their ever-increasing production and there all shipments meet on common ground. The foreign consumer will not be biased or led by prejudice or national sentiment. The best pack and the best fruit will win out.

One feature of this Horticultural Society is the permanency of the chief executive officers. They have had three presidents and two secretaries. W. C. Barry has been the President for a long number of years and public approbation marked his re-appointment for another term. For twenty-five years, John Hall has held the pen with an intimate knowledge of the Society's work and an acquaintance with the members that makes his efforts effective.

The exhibit of fruit in connection with the convention was more largely instructive than competitive. One of the most attractive exhibits was that of the New York Agricultural Experimental Station, which was composed of two hundred boxes of apples, comprising eighty different varieties. These varieties were standard and some that have been recently originated by the Station. Each box was named with a small label, and this feature could very profitably be copied by Canadian fruit exhibits, which are often composed of the very best varieties of fruit, yet visitors who come to see them are unable, without a great deal of trouble, to ascertain their names. Over five hundred plates of fruit, together with a few boxes and a few barrels, comprised the competitive exhibit, but the display of baskets, spraying materials and farm machinery was very pronounced and from them growers could learn what was newest in the way of labor-saving devices.

There is still a good profit from an apple orchard, as Prof. U. P. Hedrick, of the New York Agricultural Station, pointed. Basing his arguments on the results of a ten-year experiment, Prof. Hedrick declared it possible to secure 18 1/2 per cent. on an investment of \$500 per acre, or in other words, the average annual yield to the farmer on a ten-acre apple orchard conducted on simple and sensible modern principles is \$937.40.

The average annual cost of producing a bar-

rel of apples, including the barrel, is shown by the experiment to be \$1.29. The average price received for each barrel of apples in experiment was \$2.60, so that the average annual profit on a barrel is \$1.31.

Cost of Production.—The items in the cost of a barrel of apples are as follows:

Interest on investment\$.21
Taxes012
Tilling063
Pruning03
Spraying096
Cover crop023
Superintending orchard25
Picking, packing, sorting, handling244
Cost of barrel36
	\$1.288

This orchard was 27 years old when the experiment was commenced and it is now 37 years old. The variety is Baldwin. The average yield per acre in the ten years that the experiment was carried on was 116.8 barrels, of which there was an average of 79.2 barrels of barrel stock and 37.6 of evaporator and cider stock. The orchard was tilled, treated each year with a cover crop of clover and sprayed three times a season in the first five seasons, twice a year in the second five seasons.

How Return is Figured.—An average price of \$2.60 a barrel was received for barreled stock of the first and second variety. For evaporator and cider stock 67 cents a barrel was received. The manner in which the return of 18 1/2 per cent. on the investment is figured was described by Professor Hedrick, as follows:

Subtracting \$1.29, the cost of a barrel of apples, from \$2.60, the amount received, we have a net profit of \$1.31 a barrel for firsts and seconds. Multiplying by 79, the average number of barrels of firsts and seconds per acre, we have \$103.49 as the profit per acre for firsts and seconds. Subtracting 67 cents from 93 cents we have 26 cents as the difference between the average cost of production and the average selling price of the culls, or the evaporator and cider stock. Multiplying 37.5, the number of barrels of culls per acre by 26, we have a loss of \$9.75 per acre on the culls. This leaves the average net profit per acre in this orchard for the past ten years \$93.74, making a dividend on the investment of \$500 an acre, of 18.75 per cent.

DETAILS ESSENTIAL IN PEACH PRODUCTION.

A practical peach grower, George Friday, of Coloma, Mich., explained what he considered essential in the successful production of peaches and in most cases they apply to Canadian conditions in the last analysis.

The site is all important and any information along this line must be local. One's knowledge in one Province or State is not sufficient in another. He must understand local conditions.

Home production of nursery stock is the solution of many troubles, said Mr. Friday. The nursery firms are doing a storing and boxing trade and when the buyer gets his stock in the spring it is often dried out, or it has been started slightly, and after the new leaf appears prior to setting the tree will not grow. This is not all. Mistakes sometimes occur in the variety and it is an easy thing to lose \$1,000 through varieties not being true to name. One instance the speaker cited was where Late Crawford was substituted on his own farm and had never been a producer.

If one does purchase from outside it is often advisable to buy in the fall and heel in outside, or even to plant in the fall is not a mistake in many instances. One grower in Michigan plants in the fall and banks the earth up around the trees to where he intends to start the trees in the spring. Stock can then be purchased from two to three cents cheaper in the fall and offsets the expense of extra care. If planting is to be done in the spring, it is a profitable operation to dig the holes in the fall and fill them full of manure. This should be thrown out early in the spring so the holes will become dry and warm and the planting should be done as early as the soil and weather will permit. As this young stock has very little root system, cultivation should commence at the root system, the Friday Farm is to plow once and harrow many times. The plowing costs about \$1.50 per acre and the harrowing 40 cents per acre. With the Forkner harrow now in use this expense has been reduced considerably until \$1.00 per acre is the cost of harrowing eight times when a man's wage is \$2.00 and that of a horse \$1.00 per day. Inter cropping is resorted to during the first two years, but after that time the trees are bearing and peaches are the crop.

The system of pruning as recommended by Mr. Friday is worthy of consideration. In most orchards in Canada it is the custom to prune

quite severely the first two or three years, but the speaker's advice was to start the tree right the first year of pruning and then allow it to grow wood on which to produce a crop. After the crop begins cut back the tops and side branches to keep the trees within reach and let the sunlight into the interior to color the fruit which grows on the fine growth within the tree. The argument in favor of this system is, that severe pruning encourages an immense growth which smothers out the wood on which the growth will be produced, but allowing the tree to grow more steadily and mature its wood the fine growths of the year previous will soon bear. Most growers want peaches as soon as they can get them. The trees, however, are pruned so seven-eighths of the peaches may be picked from the ground. They are thinned during the early summer to six or seven inches apart and allowed in this way to obtain size and color.

Troublesome diseases of the past season were discussed and explained by Prof. Donald Reddick, of Cornell University. Apple scab appeared to have done considerable damage in the United States as well as in Canada, and owing to the sudden forcing out of the bloom bringing standard varieties, such as Baldwin and Rhode Island Greening, into full bloom by May 4, prevented most growers from making the application of spray just before the blossoms opened. The last spray which follows the codling moth spray, by about two weeks, was omitted and has been omitted generally in the last five years. In the four previous years it has not been needed, but in the year just past it would have had remarkable results in controlling the scab. The last ten days of May were extremely wet and had this last spray been applied prior to that time, much of the injury resulting from scab would have been curtailed.

Yellow leaf or shot-hole of cherries is becoming troublesome. It is caused by a fungus and occurs on both sweet and sour varieties, turning the leaves yellow and causing the foliage to drop prematurely. The disease has been controlled by spraying. On sour cherries, Bordeaux mixture was used and lime sulphur solution diluted one to forty (American measure). It has been controlled on nursery stock by using lime sulphur solution diluted one to forty to which two pounds of granular sulphate of iron were added. Another disease which caused comment was the mildew of peaches and it has been quite destructive in certain localities. Although few complaints are heard of it on this side, it might eventually become a troublesome disease, if it were not known of at the time of its introduction and its ravages curtailed. It appears as large whitish spots on the fruit and has a moldy whitish growth on the surface of the twigs and leaves often preventing leaves from unfolding properly. Scott's lime sulphur mixture was recommended by Prof. Reddick, who also said that the dormant treatments with strong lime sulphur solution should be valuable as well.

The co-operative end of the fruit industry was handled in a stirring way by Seth J. T. Rush, President of the Eastern Fruit and Produce Exchange. It seems strange that so little is done to extend the uses and markets of the apple, while the banana industry has grown from practically nothing to a yearly business of over \$15,000,000. The grape-fruit industry has increased in like proportion and the orange industry has reached the enormous tonnage of over 100,000 cars consumed in the United States alone. While producers have boasted these fruits, apple growers have stood by complacently like Nero, who "fiddled while Rome burned."

For every 1,000 inhabitants in 1910, the production of cereals came from 341 less acres, with 9,310 less bushels, but with a value amounting to \$9,460 more than in 1900—14 per cent. less land, 16 per cent. less product, but 48 per cent. greater value. The high cost-of-living prices do not affect the farmer, because he does not get them—his portion of the consumer's dollar is only 35 cents. It is the fundamental principle of economics that higher prices stimulate greater production, but it will never work unless the increased price goes to the producer.

Relative to parcels post, Mr. Bush said: "On the first of January, 1863, in the White House at Washington, Abraham Lincoln signed the Proclamation of Emancipation that gave freedom to 4,000,000 slaves. On January first, 1913, under the Proclamation of Postmaster-General Hitchcock, 100,000,000 people of the United States were emancipated from the bondage of the express companies. The people of this country were chained for 50 years to the express companies through the machinations of crooked politicians. The mills of the gods grind slowly, but they grind to powder. The parcels post has come to stay—an illuminating proof of the falsity of the contention of the express companies that they could not afford to handle our products and merchandise any cheaper."

When a grower once joins a co-operative exchange he should give it his loyal support, which

does not mean any half-hearted support. It does not mean to use the exchange when you can't sell your products in any other way, or to use it only in years when your crops are enormous and local dealers will not pay you living prices. It does not mean to use the exchange merely as a lever to force the local dealer to pay you what he can afford to pay, or what market conditions warrant. When one joins a co-operative society he does so because he recognizes the need of such an agency in the distribution and sale of his products and he ought to have the courage of his convictions and at once discard for good and all the attitude of suspicion, distrust and antagonism which is more or less typical of growers everywhere.

Enumerating the advantages of their exchange, Mr. Bush referred to the thoroughness of the system whereby a salesman was on the spot when a consignment reached its destination. He had a complete manifest of the shipment, and could inspect and ascertain the condition of the goods. This forestalls the custom of the dealer wiring back, "Goods received in bad condition," when the market is not favorable and he has bought f.o.b. In some cases damages have been collected, even on single baskets which arrived broken and part of the contents destroyed. In addition to this they have from 12 to 36 hours later information than the individual shipper, and are able to divert cars while en route, and thus prevent glutted markets and insure higher prices.

The products of Oregon and Washington are only a drop in the bucket compared with the output of New York State, yet with a freight handicap of fifty cents a box or \$1.50 per barrel, the Pacific Northwest finds its principal market in the midst of the great apple-producing section of the East, and the only reason they are able to do this is because they maintain a high average superiority in quality and pack compared with the eastern growers. Co-operation, better packing, grading and marketing is the whole answer.

S. A. Beach, Vice Dean of Agriculture, at Ames, Iowa, treated the Outlook of the Apple Growing Industry. It is of interest to Canadian growers, and will be reported in a later issue.

Mild Weather in Essex.

Editor "The Farmer's Advocate":

Toronto is jubilant over an early "Globe robin," but robins have never left our southern peninsula this season, and moreover the writer saw on Jan. 28th two blackbirds, an indication of very mild weather. Indeed, the season has been unusually mild with only a few snowstorms of short duration. Stock has been running out with little or no convenience and are doing well. Mild, moist weather during December seriously interfered with corn-shredding and clover-hulling, but slightly colder days in January have enabled workmen to overtake their work. Red clover seed is plentiful and a splendid sample, but greater attention requires to be paid by farmers in removing weeds before cutting in order that seed may be more marketable. Tobacco raisers are finding the market rather slow. Much of past season's crop still remains unsold. Many tobacco growers are contemplating curtailing their acreage, owing to conditions in marketing their produce. There is likelihood of a largely increased area being planted to both early and late tomatoes this year. Thousands of acres are being contracted for by the various canning factories represented within the bounds of this county. The pickling company, Leamington, are materially increasing their plant, and will be prepared to handle a much larger quantity of vegetables than formerly.

The advocates of good roads have withdrawn their proposed scheme for the present, as it was not favorably received by the farming-communities. No scheme which has as its projectors and advocates automobile manufacturers and pleasure-resort speculators need seek support from farmers in Essex.

A. E.

Demanding Better Education.

A large deputation of farmers waited on the Brant, Ont., county council recently and asked that better and higher education be given to the rural boys and girls, and favored cutting off all dealings with the Brantford Collegiate Institute,

and having instead continuation classes in the rural schools. The council promised to consider the request at once.

Lambton County Corn Show.

Corn shows are becoming popular in Canada and United States at the present time. Not only do they present the proper type of ear and kernel, but they instill into the grower the idea that corn is not only corn; it is a plant that will produce more feed per acre than any other farm crop, and a plant that responds to treatment and intelligent care in direct proportion to the amount expended in its cultivation.

The Lambton County Corn Growers were organized in April, 1913, and held their first annual show in Petrolia on January 28th and 29th, 1914. The efforts of the President, C. M. Fleck; Secretary, G. G. Bramhill, and their enthusiastic supporters were rewarded by an exhibit that exceeded even the hopes of the most optimistic regarding the initial show. The aim of the Association is to bring buyer and seller of seed corn in the county, together, and thus establish the use of seed that is home-grown and adapted to the climate and soil of the county. In accordance with this idea a class was opened for a display of an individual who had for sale 100 bushels or more of corn similar to his exhibit. The corn brought out in this class was strong evidence to the visitors that they could procure corn near home that was in all respects equal to imported seed. To say the least, the entries were numerous, the quality good, and the attendance demonstrated the interest displayed in this important crop in Lambton County.

During the addresses, in conjunction with the show, Prof. C. A. Zavitz, O. A. C., Guelph, Ont., thoroughly discussed the growing of corn and alfalfa, and their place in the rotation. L. D. Hankinson, of Aylmer, Ont., intimated that in seven years he had increased his yield of Long-fellow corn from 85 bushels per acre to 135 bushels per acre through the selection of this seed.

Markets.

Toronto.

Receipts at the Union Stock-yards, West Toronto, on Monday, February 2nd, were 52 cars, comprising 852 cattle, 494 hogs, 186 sheep, 29 calves; quality of fat cattle, medium to good; trade slow, at steady prices. Choice steers, \$8 to \$8.20; good, \$7.50 to \$7.75; common to medium, \$6 to \$7.25; cows, \$3.50 to \$7.25; bulls, \$5.25 to \$7; feeders, \$6.50 to \$7.35; stockers, \$5.50 to \$6.25; milkers, \$6 to \$9; calves, \$6 to \$11.50; sheep, \$5 to \$7; lambs, \$8 to \$8.75 for heavy; light, \$9 to \$9.50; hogs, \$9.25 to \$9.35 fed and watered, and \$9 f. o. b. cars.

REVIEW OF LAST WEEK'S MARKETS

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

	City.	Union.	Total.
Cars	11	266	277
Cattle	370	3,338	3,708
Hogs	80	7,374	7,454
Sheep	402	1,157	1,559
Calves	16	243	259
Horses	28	47	75

The total receipts of live stock at the two yards for the corresponding week of 1913 were:

	City.	Union.	Total.
Cars	19	256	275
Cattle	308	3,308	3,616
Hogs	96	6,363	6,459
Sheep	54	706	760
Calves	52	238	290
Horses	—	92	92

The combined receipts of live stock at the two yards for the past week show an increase of 2 carloads, 92 cattle, 995 hogs, 799 sheep and lambs; but a decrease of 31 calves and 17 horses, compared with the corresponding week of 1913.

Receipts of cattle for the past week were not nearly as large as for the previous week, but altogether too many for the demand. As a result, it was the duller trade in cattle that has been experienced for some time. Prices declined 80c. per cwt. on an average, and in many instances there was a drop of 50c. per cwt. The cause was a heavy delivery for the previous week, when the butchers and packers bought liberally, and, of

course, they were not anxious to buy unless they got them at lower prices, which they did. Drivers had paid too high for their cattle in the country, and did not feel disposed to sell at a sacrifice, "which they eventually had to do," and this caused a very dull, draggy market all week. In sheep, lambs, and calves, there was little change, excepting that there is a large percentage of heavy lambs coming on the market, and these sold at lower prices. The hog market was much firmer at the close of the week, although there was a consignment of 12 decks from the Province of Alberta to the Swift Canadian Company, arrived on the market on Wednesday.

Butchers.—Choice butcher steers sold at \$8 to \$8.35 for loads; good, \$7.75 to \$8; medium, \$7 to \$7.50; common, \$6 to \$6.50; choice cows, \$6.75 to \$7; good cows, \$6 to \$6.25; medium, \$5.50 to \$5.75; common, \$4.75 to \$5; canners and cutters, \$3.50 to \$4.25; choice bulls, \$7 to \$7.50; good bulls, \$6 to \$6.75.

Stockers and Feeders.—Light receipts of stockers and feeders caused prices to rule high. Choice steers, 900 to 1,000 lbs., sold at \$7 to \$7.35; medium steers, \$6.25 to \$6.75, and stockers, 450 lbs., sold at \$6 per cwt.

Milkers.—The market for milkers and springers was firm all week for good to choice quality, ranging from \$55 to \$90 each. The bulk sold at \$65 to \$80.

Veal Calves.—Receipts were light, and prices firm, but unchanged. Prices during the week ranged from \$10 to \$11.50 for choice veals; \$9 to \$10 for good; common to medium veals selling at \$6 to \$8.50.

Sheep and Lambs.—Receipts were light all week. Choice sheep and lambs remained about steady, but heavy lambs were lower. Light ewes, \$6.50 to \$7; heavy ewes, \$5.50 to \$6.25; rams, \$5 to \$6.25; heavy lambs, \$8 to \$8.75; light lambs, ewes and wethers, \$9.25 to \$9.50.

Hogs.—The market was much firmer at the close of the week. Selects, fed and watered, sold at \$9.25 to \$9.50, and \$9 to \$9.15 f. o. b. cars, and \$9.75 weighed off cars.

Horses.—Receipts of horses at the Union Horse Exchange, Union Stock-yards, for the past week were liberal. There were many drafters of fine quality, but few sales were reported, as the trade was very quiet. Besides the local demand, there were a few shipments made to the following points: Two consign-

ments to St. Catharines and one to Huntsville, as well as one carload to Winnipeg. None of the selected drafters mentioned in our last letter were reported sold. Prices for those sold were reported as follows: Drafters, \$175 to \$250; general-purpose, \$150 to \$200; expressers, \$150 to \$210; drivers, \$100 to \$150; serviceably sound, \$30 to \$75. Prices, it will be seen, are steadily declining, for the general run.

BREADSTUFFS.

Wheat.—Ontario, new, No. 2 red, white or mixed, 85c. to 86c., outside; 89c., track, Toronto, Manitoba, No. 1 northern, 95c., track, bay points; No. 2 northern, 94c.

Oats.—New, No. 2 white, 34c. to 35c., outside; 38c. to 39c., track, Toronto. Manitoba oats, No. 2, 41c.; No. 3, 39c., lake ports.

Rye.—No. 2, 62c. to 63c., outside. Peas.—No. 2, \$1 to \$1.05, outside. Buckwheat.—No. 2, 75c. to 76c., outside.

Corn.—American, No. 3 yellow, 70c., all rail, track, Toronto. Barley.—For malting, 54c. to 55c.; for feed, 43c. to 45c., outside.

Flour.—Ontario, ninety-per-cent. winter-wheat flour, new, \$3.50 to \$3.55, bulk, seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.30; second patents, \$5; in cotton, 10c. more.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, \$14 to \$14.50 for No. 1, and \$13 for No. 2.

Straw.—Baled, car lots, track, Toronto, \$9 to \$9.50.

Bran.—Manitoba, \$22.50 to \$23.50, in bags, track, Toronto; shorts, \$23 to \$25; Ontario bran, \$23, in bags; shorts, \$24; middlings, \$26.

COUNTRY PRODUCE.

Butter.—Market was steady. Creamery pound rolls, 32c. to 34c.; creamery solids, 28c. to 30c.; separator dairy, 27c. to 28c.; store lots, 24c. to 25c.

Eggs.—New-laid, 40c. to 42c.; cold-storage, 35c. to 36c.; selected cold-storage, 38c.

Cheese.—Old, large, 15c.; twins, 15c.; new, 14c. for large, 14c. for twins.

Honey.—Extracted, 10c. per lb.; combs, per dozen sections, \$2.50 to \$3.

Potatoes.—Car lots of Ontarios, track, Toronto, 80c.; New Brunswick Delawares, 90c. per bag, track, Toronto.

Poultry.—Receipts were fairly liberal, and prices about steady. Turkeys dressed, 21c. to 23c.; geese, 17c. to 18c.; ducks, 17c. to 19c.; chickens, 17c. to 18c.; hens, 12c. to 14c.

TORONTO SEED MARKET.

Alsike, No. 1, per bushel, \$8.50 to \$9; alsike, No. 2, per bushel, \$7.50; alsike, No. 3, per bushel, \$6 to \$7; timothy, No. 1, per bushel, \$2.75 to \$3.25; timothy, No. 2, per bushel, \$2 to \$2.50; red clover, per bushel, \$8 to \$8.50; red clover, No. 2, \$7.75 to \$8.

HIDES AND SKINS.

No. 1 inspected steers and cows, 18c.; No. 2 inspected steers and cows, 12c.; No. 3 inspected steers, cows and bulls, 11c.; city hides, flat 13c.; country hides, cured, 13c.; calf skins, per lb., 16c.; horse hides, No. 1, \$3.50 to \$4 each; lamb skins and pelts, 75c. to \$1.25; tallow, No. 1, per lb., 5c. to 7c.; horse hair, per lb., 38c. to 40c.

FRUITS AND VEGETABLES.

Apples, No. 1 Spies, \$5; No. 2 Spies, \$4 to \$4.50; Baldwins, \$3.25 to \$4; Greenings, \$3.50 to \$4.50; Russets, \$3 to \$3.50; onions, Canadian reds, \$2.50 for 75-lb. sack; New York yellow, 100-lb. sack, \$3.50; Spanish onions, \$4 to \$4.50 for large case; celery, per case of four and one-half dozen, \$4 to \$4.75; beets, per bag, \$1.25; carrots, \$1 per bag; parsnips, per bag, \$1.25; cauliflower, two dozen in a case, \$2.75 to \$3; Florida cucumbers, per case, 2 1/2 dozen per case, \$3.50 to \$3.75; Florida strawberries, 40c. to 50c. per quart.

Montreal.

Live Stock.—The offering of cattle on the local market was quite large, and as demand was not overly active, an easier feeling prevailed in the market. Prices showed a slight decline, at 8c. per lb. for choicest steers; fine could be had at around 7c.; good ranged from 6c. to 7c., and medium from 6c. to 6c. Lower grades sold down to 4c. for butchers' cows and bulls and common steers. The offerings of lambs and sheep were light. Lambs sold at 8c., and sheep at 5c. to 6c. per lb. Calves were in moderately good demand, and prices ranged from \$3 to \$6 for common, and \$7 to \$12 for choice. There was a fair demand all the way round for hogs, and selects were sold

THE ROYAL BANK OF CANADA

Capital Authorized - \$ 25,000,000
Capital Paid Up - 11,560,000
Reserve Funds - 13,000,000
Total Assets - 180,000,000

HEAD OFFICE: MONTREAL
Branches throughout every Province of the Dominion of Canada.

Accounts of Farmers invited.
Sale Notes Collected.

Savings Department at all Branches.

at \$9.65 to \$9.75, while straight lots were \$9.40 to \$9.50 per 100 lbs., weighed off cars. Some Manitoba hogs were offered, and prices were on the easy side, at \$9.25 to \$9.40 per 100 lbs., weighed off cars.

Horses.—Quite a few horses changed hands, but prices showed no change. Heavy draft, weighing from 1,500 to 1,700 lbs., sold at \$275 to \$325 each; light draft, 1,400 to 1,500 lbs., \$225 to \$250 each; broken-down, old animals, \$75 to \$125, and choicest saddle and carriage animals, \$350 to \$500 each.

Poultry.—Demand for poultry was moderately active. Turkeys were 19c. to 21c. per lb.; ducks and chickens, 15c. to 18c.; fowl, 12c. to 14c., and geese, 14c. to 16c.

Dressed Hogs.—Dressed hogs were firm last week. Abattoir-dressed, fresh-killed stock, sold at 13 1/2c. to 14c. per lb., while country-dressed sold at 13 1/2c. to 13 3/4c. per lb. for light weights, and 12c. to 12 1/2c. for heavy weights.

Potatoes.—Stocks were moderately large. Green Mountains were 75c. to 80c. per bag, ex track, in car lots, while Quebec varieties were 65c. to 70c. per bag. In a jobbing way, prices were 15c. to 20c. higher, ex store. Bags weigh 90 pounds.

Honey and Syrup.—White-clover comb was 15c. to 16c. per lb.; extracted, 10 1/2c. to 11 1/2c.; dark comb, 13c. to 14c., and strained, 7 1/2c. to 8 1/2c. per lb. Tins of maple syrup sold at 9c. to 10c. per lb., while syrup in wood was 7c. to 8c., and maple sugar, 9c. to 10c. per lb.

Eggs.—Prices of eggs showed little change. Strictly-fresh stock sold at 42c. to 43c. per dozen; selected eggs, 35c. to 36c.; No. 1 candled, 30c. to 31c., and No. 2 candled, 26c. to 27c.

Butter.—The market was steady, and moderately active. Choice makes were 28 1/2c. to 29c. per lb., wholesale; fine butter was 27 1/2c. to 28c., while second grades were 26 1/2c. to 27c. Dairy butter was firm, at 23c. to 24c. per lb. for Ontarios, and 22c. to 22 1/2c. for Manitobas.

Grain.—No. 2 Western Canada oats were quoted at a slight advance, being 42 1/2c. per bushel, ex store, in car lots; No. 3, 41 1/2c., and No. 2 feed, 39 1/2c. to 40c.

Flour.—Manitoba first-patent flour was quoted at \$4.40 per barrel, in bags; seconds being \$4.90, and strong bakers' \$4.70. Ontario winter-wheat flour was unchanged, at \$4.75 to \$5 for patents, and \$4.50 to \$4.60 per barrel, in wood, for straight rollers.

Millfeed.—The market for millfeed advanced. Bran sold at \$22 per ton, and shorts at \$24 in bags, while middlings were \$27, including bags. Mouille was \$30 to \$32 per ton for pure, and \$28 to \$29 for mixed.

Hay.—Prices were about steady. No. 1 pressed hay, car lots, Montreal, ex track, \$16 per ton; No. 2 extra good, \$14, and No. 3, \$13.

Seed.—Timothy seed was steady. Dealers were bidding 5 1/2c. to 6 1/2c. per lb., country points. Alsike was about the same as a year ago, being \$8 to \$10 per bushel of 60 lbs. Red clover was lower, at \$8 to \$9.50 per bushel.

Hides.—Beef hides were 12c., 13c. and 14c. for Nos. 3, 2 and 1, respectively. Calf skins were 15c. and 17c. for Nos. 2 and 1, and lamb skins were \$1.10 each, with horse hides ranging from \$1.75 for No. 2, to \$2.50 each for No. 1. Tallow sold at 1 1/2c. to 3c. for rough, and 5c. to 6 1/2c. for rendered.

Buffalo.

The cattle market at Buffalo the past week was lower, conditions being weak, at practically all of the markets. Buyers of good weight steers are complaining that offerings in this line are running largely to the warmed-up, half-to-three-quarters fat steers, which show a small killing percentage, and which prove dearer hanging on the hooks than the real choice to prime grades, which show a much larger killing percentage, and which are more ready sale. Market here on all grades, with the possible exception of some real, prime shipping and handier steers, and some nice, tidy, tasty heifers, was 15c. lower, and some plain, coarse steers, sold even to worse advantage, being about the last class of stuff to move, and being draggy throughout the sessions. Monday, there were around 185 loads on offer, about 25 cars being steers on the shipping and export demand order. Swift and Armour were the main support to this end of the trade, best heavy steers ranging from \$8.60 to \$8.90. Best handy steers reached up to \$8.35. Most of the shipping steers ran from 1,150 to 1,250 lbs., and few that attracted much interest. No Canadians were offered in this line. Some few fancy heifers sold up to \$7.50 to \$8, but in loads it was mainly a \$7 to \$7.25 for pretty good killing grades, some other market heifers that lacked finish going over the scales at \$6.80. Very few stockers and feeders offered, and demand was strong for anything in this line, order buyers having quite a few orders for both stock and feeding cattle. Bulls are selling strong, and bringing more money, in comparison, than any other grades. Only the best kinds of fresh cows and springers are finding satisfactory outlet, medium and common ones being very slow, and in many cases bringing more money for beef. At the close of the Monday trade, a practical clearance was had. For the balance of the week receipts were light, but trade was slow. About the best in the shipping steer line after Monday, sold at \$8.60. Butchering cattle ran principally to the cheaper grades, and found barely steady to 10c. lower sale than for the opening day. The week's trade wound up to better advantage than the middle of the week, the west cleaning up in pretty good shape. Weather has been soft most of the week, and this operated against the beef trade. Receipts for the week totalled 4,025 head, as against 3,925 for the previous week, and 4,290 head for the corresponding period a year ago. Quotations follow:

Prime, weighty steers, \$8.60 to \$8.90; fair to good, weighty steers, \$8.20 to \$7.80 to \$8; good, medium, weighty steers, \$8.40; plain and coarse, weighty steers, \$8.20 to \$8.35; fancy yearlings, \$8 to \$8.25; fair to medium, \$7 to \$7.50; best handy-weight steers, \$8 to \$8.35; medium, handy-weight steers, \$7.50 to \$7.75; prime and fancy fat heifers, \$7.50 to \$7.90; good butcher heifers, \$6.60 to \$7.25; medium fat heifers, \$6 to \$6.50; prime, weighty, fat cows, \$6.50 to \$7; good butchering cows, \$5.50 to \$6; fair to medium butcher cows, \$4.75 to \$5; cutters, \$4.25 to \$4.50; canners, \$3.60 to \$4; feeders, good to choice, \$6.75 to \$7.25; feeders, fair, \$6.25 to \$6.40; stockers, good to best, \$6.50 to \$7; stockers, fair to medium, \$5.75 to \$6; stockers, little, common, mixed, \$5 to \$5.50; best butcher and heavy bulls, \$6.75 to \$7.25; medium butcher and sausage bulls, \$6.25 to \$6.75; stocker or thin bulls, as to quality, \$5 to \$5.50; extra fresh cows and springers, \$90 to \$100; best large cows in loads, \$65 to \$70; fair to good in loads, \$50 to \$55; common to fair, \$30 to \$40.

Hogs.—Trade for the first part of last week was higher than for the previous week's close, bulk selling at \$8.90. Tuesday, Wednesday and Thursday, prices declined, dropping to \$8.60 to \$8.65, and the latter part of the week a reaction was had, bulk bringing up to \$8.80, with a few decks at \$8.85. Pigs ranged from \$8.40 to \$8.75; roughs, \$7.75 to \$8; stags, \$6 to \$7. Receipts for the past week, 35,360; previous week, 33,920; year ago, 37,600.

Sheep and Lambs.—Everything, especially the weather, was against this end of the trade the past week, resulting in a demoralized trade, prices on lambs declining nearly every day during the week. Monday was the high day for lambs, bulk selling at \$8.35, and before the week was over, buyers got choice ones down to \$8. Heavy lambs were extremely bad sale, selling at about the same as culls, ranging from \$7.25 down. Sheep supply was light, in proportion to receipts, and prices on these were held about steady all week, there being some request for export wethers; the top for this class of stuff being \$6. Ewes sold from \$5.58 down, and cull sheep from \$4.50 down. Receipts for past week, 31,600 head; previous week, 36,200; year ago, 28,400.

Calves.—The week started with a \$12.50 market for tops, balance of the week prices being lower, choice ones selling mostly at \$12. Culls sold from \$10 down, and fed calves, \$5 to \$6.50. No Canadians offered. Receipts for week, 1,300; previous week, 1,325; year ago, 1,725.

Chicago.
Cattle.—Beaves, \$8.80 to \$9.50; Texas steers, \$6.90 to \$8; stockers and feeders, \$5.40 to \$8.10; cows and heifers, \$3.60 to \$8.55; calves, \$7.50 to \$10.50.
Hogs.—Light, \$8.30 to \$8.55; mixed, \$8.30 to \$8.60; heavy, \$8.25 to \$8.60; rough, \$8.25 to \$8.35; pigs, \$6.50 to \$8.30; bulk of sales, \$8.40 to \$8.55.
Sheep and Lambs.—Sheep, native, \$4.80 to \$6; yearlings, \$5.85 to \$7; lambs, native, \$6.85 to \$8.

Chicago.

Cattle.—Beaves, \$8.80 to \$9.50; Texas steers, \$6.90 to \$8; stockers and feeders, \$5.40 to \$8.10; cows and heifers, \$3.60 to \$8.55; calves, \$7.50 to \$10.50.
Hogs.—Light, \$8.30 to \$8.55; mixed, \$8.30 to \$8.60; heavy, \$8.25 to \$8.60; rough, \$8.25 to \$8.35; pigs, \$6.50 to \$8.30; bulk of sales, \$8.40 to \$8.55.
Sheep and Lambs.—Sheep, native, \$4.80 to \$6; yearlings, \$5.85 to \$7; lambs, native, \$6.85 to \$8.

Gossip.

Robert Miller, manager of the Short-horn sale just held in Toronto, states that "The Farmer's Advocate" brought enquiries for every catalogue of the sale that he dare send out.

In the advertisement of Tamworth pigs, the property of John W. Todd, Corinth, Ont., and which appeared in our issue of January 29, an error occurred in price, which should have read \$15 to \$30, in place of \$5 to \$30, as published.

Attention is called to the great dispersion sale of Clydesdales and Shorthorns, the property of R. Nichol & Son, Hagersville, Ont., to be held at their farm, near the above address, Thursday, March 5th. Do not fail to see this advertisement. Further announcement next week.

Attention is called to the auction sale of F. E. L. Talbot, Lambeth, Ont., on February 18th. Mr. Talbot has sold his farm. High grade Holsteins, grand cows, high-class horses and pigs, and good implements, will be offered, without reserve. See the advertisement.

SALE DATES CLAIMED.

February 9th and 10th.—Annual Combination Sale of pedigreed Clydesdales and Percherons, at Union Stock-yards, Toronto.

February 11th.—A. E. Hulet, Norwich, Ont.; Holsteins; dispersion.

February 10th.—Southern Ontario Consignment Sale Co., Tillsonburg, Ont.; Holsteins.

February 18th.—F. E. L. Talbot, Lambeth, Ont.; Holsteins; grades.

February 20th.—W. J. Beatty, Guelph, Ont.; Jersey cattle and horses.

March 5th.—R. Nichol & Son, Hagersville, Ont.; Shorthorns and Clydesdales.

March 4th.—Annual Provincial sale of pure-bred cattle, at Guelph.

March 11th.—G. H. McKenzie, Thornhill, Ont.; Holsteins.

March 10th.—Norfolk Holstein-Friesian Breeders' Club, at Simcoe, Ont.; Holsteins.

March 12th.—H. R. Patterson, Paris, Ont.; Holsteins.

March 24th.—Bass Bros., Lansing, Ont.; Holsteins.

April 9th.—P. J. Sally, Lachine Rapids, Que.; dispersion sale of Holsteins.

Trade Topics.

Attention is called to the advertisement in this issue of butter and egg cartons for sale by the Radd Paper Box Co., Ltd., of Toronto. This advertisement is worthy the attention of producers of these farm products.

The annual statement of the Dominion Bank for the year ended 31st December, 1913, was the best ever issued by this institution. The net profits amounted to \$950,402, as compared with \$901,000 for the previous year, and \$704,000 for 1911. In addition to the net profits of \$950,000, the bank received as premiums on new capital stock, the sum of \$811,000, and brought forward from the previous year a balance of \$688,000, making a total of \$2,449,000 available for distribution. Dividend disbursements and bonuses took \$765,000, and reserve fund \$811,000, investments account \$200,000, and officers' pension fund \$25,000, leaving \$647,000 to be carried forward. The bank has now a paid-up capital of \$5,811,000, a reserve of \$6,511,000, and total assets of \$80,506,000. The year has been an exceptionally prosperous one for the Dominion Bank.

News of the Week

CANADIAN.

Ex-President Taft, who was the guest of the City of Toronto last week, may return during the academic year of 1914-15, to deliver a course of lectures at the University.

The three members of the Quebec Legislature accused by the Montreal Daily Mail of accepting bribes for the passing of the Montreal Fair Association Bill, resigned on January 29th. The investigation in both houses will, however, be carried on.

Sir George W. Ross is in Toronto General Hospital, occupying a room in the same wing in which Sir James Whitney is slowly recovering.

The new parcel-post system will be inaugurated early in February.

BRITISH AND FOREIGN.

A force of 2,000 handits, under "White Wolf," on January 29th, sacked and burned the city of Liuan Chow, China.

By a bill passed in Peking by the Administrative Council, which, under Yuan Shi Kai, has supplanted the Chinese Parliament, Confucianism has been made the state religion of China. The bill was introduced by Yuan.

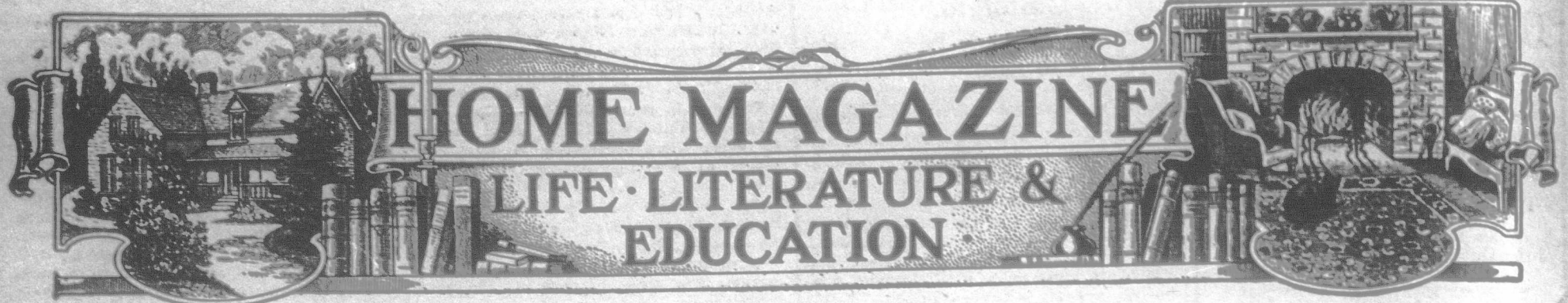
It is reported that President Wilson inclines to the British view of the Panama Tolls question, and may take steps to do away with discriminations contrary to the provisions of the Hay-Pauncefote treaty.

Ten of the principal labor leaders have been deported from South Africa. A large force of police and detectives are on board the steamer Ungeni on which they are being taken to England.

Thirty-nine lives were lost by the ramming of the steamer Monroe by the liner Nantucket in a fog off the coast of Virginia, on January 30th. The Monroe plunged to the bottom so quickly that few rescues could be made.

Dried vegetables, especially potatoes, peas and beets, are being extensively prepared in Germany. Five hundred thousand tons of potatoes were dried last year. They are used for pastry and bread, in making soup tablets, and food for animals.

The total capital of British film-making firms is £2,500,000, and about 50 million feet of film are used daily. The first picture theater was at Olympia, when Mr. Robert Paul ran a small hall in 1896. There are now over 6,000 picture theaters in the country, and there is a weekly attendance of eight million persons. Over £13,000,000 is invested in the business.—T. P.'s Weekly.



Winter Wheat.

By Helena Coleman.

Thrilled by the thought of underlying spring,
The little emerald blades unfold to greet
Their promised heritage of sun and heat,
With life's wild rapture eager, hastening:
How should they know that winter yet must bring
Its joy chains to bind the tender feet—
That driving storms of snow and chilling sleet
And javelins of frost shall smite and sting?
Thou, too, O eager heart, that dost aspire
To bring to harvest thy perfected grain,
And reach thy promised heritage of higher
Endowment, must be swept by storms of pain—
Must know the anguish of delayed desire,
And feel the biting tooth of cold disdain!

Little Trips Among the Eminent.

Canadian Poets.

By Clayton Duff.

HELENA COLEMAN.

"Songs and Sonnets," the attractive volume of poems by Helena Coleman, was published seven or eight years ago under the auspices of the Tennyson Club of Toronto, and aroused immediate and wide-spread interest. Since then, few Canadian poets have been more often quoted, while there seems to be a note of regard in the reference made to her that is deeper than mere admiration. For there is nothing specious and superficial in these songs and sonnets. They are the expression of a warm, sincere, and thoughtful personality, and speak directly to the hearts of their readers.

To most of the latter it is now well known that Helena Coleman is a native of Toronto, a sister of the eminent geologist, Prof. A. P. Coleman, of Toronto University, with whom she resides. It is not surprising, to one familiar with her poetry, to learn of her love of music, her interest in social work, or the pleasure she finds in the company of congenial friends. The independence of spirit revealed in such poems as "Conquest," and "Give Me No Pity," is well known to her acquaintances, and it makes the courage we draw from her writings all the more inspiring to find that she has not been daunted by trying limitations in her own existence.

"Denial has been my armor, well-tempered and bright,
From pain I have woven banners both crimson and white."

While "Songs and Sonnets" was the work of a new writer, there was none of the immaturity of the novice in its workmanship, range of thought, or the experience of life which it revealed.

Helena Coleman has not the magnificent imaginative quality of Isabella Valancy Crawford, nor yet, perhaps, such an exquisite instinct for poetic expression as Bliss Carman, Phillips Stewart, or Marjorie L. C. Pickthall, and in summing up his impressions of her book, one might wish for a little less evenness, might like to see the author at times more irrepresible, not always so well controlled. But if the smooth, unlabored flow of her verse sometimes deceives the reader into underrating the difficulty of its execution, one with a fastidious ear appreciates how rare are crude expression

or lapses of form, and feels a sense of satisfaction in the poet's sureness of touch. This feeling is often heightened to surprise and pleasure by some line or phrase of especial felicity.

In this respect her sonnets, on the whole, contain her best work. The sonnet in some hands gives an impression of formality that tends to repel the reader, but to Miss Coleman it seems to be such an instinctive form of expression that we lose the sense of its limitations, or feel that they have given only happier wings to the poet's thought.

"Upon a Western prairie once I met
A flock of pelicans—a glorious sight!
Now in the sun they gleamed a dazzling white,
Now, circling, darkened to a silhouette;
Great-breasted things, with sweeping pinions set
To rhythmic curves of slow, majestic flight.
They rose into the measureless blue height,
Undaunted, radiant—I see them yet.

"I see them yet! for when I turn my eyes
Beyond these city walls of my despite,
Behold their buoyant forms still sweep the skies
Like spirits of the air, incarnate, bright,
And something untamed in me seems to rise
And with them breast those boundless seas of light!"

The effect of sublimity imparted by this fine poem, "The Pelicans," is a manifestation of the exalted feeling that nearly always marks her attitude toward nature. Her delight in it is seldom merely sensuous. To her, nature is none the less dear because she looks beyond its superficial charm for the spiritual meanings which it typifies.

It is this spiritual quality that gives the great distinction to Miss Coleman's verse. Occasionally, she may have a mood of questioning or regret, but nearly always her influence is consoling or inspiring. She invigorates us by her courage, and we catch the contagion of her faith and spiritual yearning. To read "Songs and Sonnets" gives life a deeper meaning, greater possibilities, a more sacred beauty. It is no mere shallow optimism she expresses, but the convictions of one who has tested existence and has been enriched by her experience.

The spiritual largeness and sweetness she can draw from the "ache of earth" are beautifully revealed in "Our Common Brotherhood," which brings a sense of joy in its fresh assurance of the divinity of life.

"I never saw His face, or knew His name,
But that gay morning as I loitering came
Around the blossoming hillside all aflame,

"With lilac spires and apple-blossoms brave,
That to the rifling air their sweetness gave,
I saw where they were making Him His grave.

"If I had chanced to meet Him by the way,
In all the golden sunshine of the day,
No pleasant word I might have found to say;

"But since He could no longer come to meet
The world, love-smitten, dreaming at his feet,
Nor feel within his pulse the spring-tide beat,

"Nor love again—I gave for Him instead,
And poured upon His low, unconscious head,
The sacramental love that shrives the dead.

"And though I went my way with eyelids wet
For grief of One whom I had never met,
Because His day so soon was ended, yet

"I turned my face up Heavenward again,
Believing human love is not in vain;
And, moved and softened by the sudden strain

"Of fellowship, I touched the larger mood
Of universal love, and understood
The passion of our common brotherhood."

Historical Series.

THE HERO OF THE MISSISSIPPI.

He who travels through the United States of to-day and floats down over the broad, tawny bosom of the Mississippi, sees a wonderful scene of life and civilization. Over the waters steam and puff and pant myriads of water-craft, steamers and tugs, and smaller river-boats; extending back from the shores may be seen a broad vista of cultivated fields, the grain and corn of the Northern and Middle States merging into the sugar and cotton areas of the South; everywhere are peaceful workers, while ever and anon, creeping down towards the river-front as is their wont, appear cities and towns and villages, with spires and chimneys and curls of black smoke and silvery steam rising upward against the sky.

Three hundred years do not seem long in the history of the world, yet even 300 years ago, what a different scene was presented. The broad prairies were here, to be sure, and sunny vales all interspersed with groves (over and over again the journals of the first voyagers down the Mississippi, the "Colbert," as it was called by these Frenchmen of the long ago, dwell upon the beauty and beneficence of the country, the fruit trees growing wild, the mulberry groves, the nut trees, the flowers all a-bloom in January)—but instead of broad acres over which whirr binders and modern machinery of all kinds, the prairies of that day grew rank with prairie grass, and over them thundered countless herds of bison.—M. Cavellier (brother of Robert) tells about witnessing, in 1687, a buffalo-hunt in which 150 Indians took part. "all on horseback, armed with lances tipped with sharpened bone, well tied and encased, each of whom attacked a bull"; then, too, the groves deepened here and there into forests dark and dank and miasmatic marshes now for the most part done away with; and instead of the prosperous cities with their spires and chimneys, and curls of dark smoke and hurrying multitudes clattering over granolithic sidewalks, were then to be seen, towns and villages, to be sure, yet towns and villages of strange aspect, peopled by tribes whose exact like are not on the earth to-day.

Many have written of them, especially those raconteurs who went with La Salle on those first venturesome voyages—his brave lieutenants, Tonti and Joutel, Fathers Zenobius Membre, Le Clerq, Douay, and M. Cavellier—and have left with us pictures clear almost as those taken with camera, pictures of the skin tents of the North, of the mud and matting abodes of the South, pictures of the people and their customs and their rites. But of this later.

This, then, a first dim glimpse into that

strange country into which Robert Cavellier, Sieur de la Salle ventured on the greatest of his many and thrilling journeycings by sea and by land. True, Joliet and Marquette had sailed over the red, muddy waters before him, reaching the mouth of the Arkansas, but La Salle was the first to explore the great river to its mouth, the great triple mouth where merge the waters of half a continent with the salt seas of the Mexican gulf.

Before that, however, he had touched intimately this Canada of ours, and so his place is appropriate in these of necessity meagre gleamings from the lives of the men who have left so great an impress upon our country. Pitifully meagre—yet the writer will be well repaid if the reader, by means of these epitomes, is inspired to read further from the books in which "space" has been no consideration. For the life of La Salle, those who are interested can scarcely do better than turn to Parkman's "Discoverers of the Great West," and subsequently to the journals of the very men themselves, as contained in a little book with a long title—"The Journeys of Rene Robert Cavellier, Sieur de la Salle, as related by Tonti, Fathers Membre, Hennepin, Douay and Le Clerq; by Joutel; and La Salle's brother, Jean Cavellier; edited by Isaac Joslin Cox, Ph.D., Instructor in History, University of Cincinnati." And now to the life-story of this great, though unhappy, man.

LA SALLE IN CANADA.

Rene Robert Cavellier, Sieur de la Salle, was born in Rouen, France, in 1643, a younger son in the family of a rich burgher. He spent the earlier part of his life in a Jesuit seminary, but finding so quiet a life not at all to his taste, he eventually left the school and made his way to Canada, where an elder brother, Abbe Jean Cavellier, was already numbered among the Sulpitian fathers of Montreal.

Before long the younger Cavellier was given a grant of land near the end of the lake expansion of St. Louis, and within hearing of the brawl of the rapids beyond. He called the spot La Chine (was the name, an indication of his day-dreams?) and at once proceeded to have an enclosure palisaded and a village founded, giving the villagers each a third of an acre of land within the enclosure, and a farm without.

But he did not intend to remain at La Chine. With all of Champlain's daring and fire of imagination, he was weaving a web of life for the future, and even taking first steps towards its realization; already a scholar, he knew how to study, and within two or three years had mastered, not only the Iroquois, but seven or eight other Indian dialects.

Finally the time seemed ripe, and in 1669 he sold his seignery to get money for his first trip westward.

On the 6th of July, 1669, the time of year in Canada when skies are blue and all the landscape green, and all the waters ripple in glittering beneficence, La Salle left La Chine with a party of Sulpitian fathers and others, in all, a company of twenty-four men, in seven canoes, beside two canoes with Indian guides. His intention was to go to the Ohio, that of the priests not so clearly defined, but at all events the party pushed on, up the St. Lawrence, paddling, portaging across the broad bosom of Lake Ontario, until at last the village of Otinawatawa, a few miles north of where the city of Hamilton now stands, was reached.

Here the travellers were warmly welcomed by the Indians, and given as a present a Shawanoe prisoner who promised to be useful as a guide. When on the verge of re-embarking, however,

Dr. Maria Montessori

chance meeting altered, to some extent, the course of action. It was learned that two other Frenchmen, but from the West, had just arrived at a neighboring village, and a halt was called in order to hear what these travellers had to say, an interesting enough story since one of the newcomers proved to be none other than Joliet on his way back from one of his earlier trips to Lake Superior.

He showed a map and told of the Pottawattamies and other tribes of the Upper Lakes, and such was the effect of his recital that the Sulpitians resolved to go thither. La Salle, however, clung to his original plan of going to the Ohio region, and so before long a separation was made, not at all to the regret of La Salle, who by no means relished a divided command such as that of the party had so far been.

The priests crossed to the Grand River, and went down it to Lake Erie, which they found "tossing like an angry ocean." Somewhere near Long Point they decided to camp for the winter, built a log cabin, and collected stores, drying wild plums and grapes, and gathering chestnuts and hickory nuts. In the spring they went on to Sault Ste. Marie, where they found Fathers Dablon and Marquette, but before long they returned via French and Ottawa Rivers, to Montreal. The most notable event of their trip was the drawing, by Father Galline, of the earliest map of this region known.

La Salle, in the meantime, promptly disappeared. For the two following years, almost nothing is known of his doings. His journals and maps were lost, and it is only surmised that he discovered the Ohio. It is known, however, that in 1670 he followed the lakes as far as Michillimackinac, that he went on to the southern part of Lake Michigan and crossed to the Illinois, and some maintain that he reached the Mississippi itself two years before Joliet and Marquette saw it. This, however, has never been substantiated.

Finally, however, he returned, and once more became definitely identified with the fortunes of early Canada.

LA SALLE AT FRONTENAC (Kingston).

La Salle appears at all times to have been in high favor with the Count de Frontenac, that proud and strong Governor who, during his term of administration, conducted the affairs of the new country with a capable, if misunderstood hand, and on his return from the Illinois, he was sent by the latter to summon deputies from the Iroquois towns to meet in a grand council at Cataragui, where the Governor had decided to build a fort, both as protection to the colony and a base for the fur trade from the West.

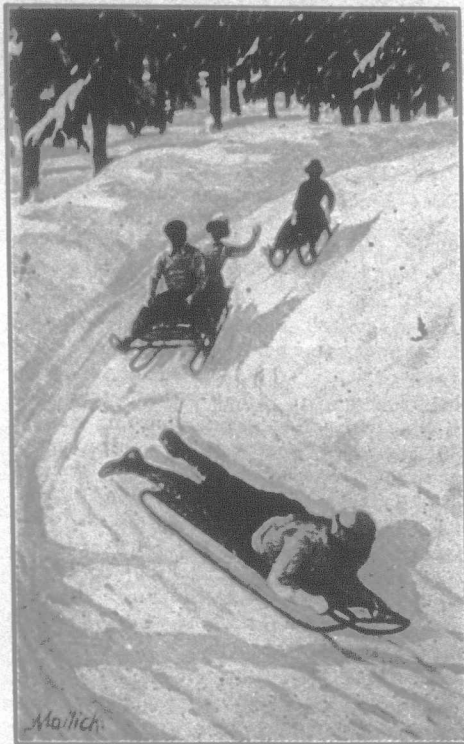
Frontenac was always fortunate in his dealings with the Indians. He seems to have tried to be fair with them, and he well understood the pomp and show and touch of aloofness that impress the primitive mind.

Can we realize the scene at Cataragui upon the day of that council? Parkman has described it with all his brilliance of word-picturing:—the approach of Frontenac with his flotilla of 120 canoes and two flat-boats brilliantly painted with red and blue; the formation into line of battle as the point of landing was neared—(the spot where the barracks now stands); the brilliant uniforms of the French; the roll of drums; the presenting of arms; the ejaculations of astonishment of the Indians; the ceremony of procedure according to Indian etiquette; the eloquence of the addresses; the speech of Frontenac, who addressed his audience as "My Children,"—not "My Brothers," as former governors had done—and told them about their great king across the water. There was feasting, and there were presents of tobacco, guns, prunes, and raisins, and the result was, that with the concurrence of all the establishment of the fort was decided upon.

At once the men set to work, and before ten days, with a speed that astonished the Indians, "Fort Frontenac" was almost completed.

La Salle, who offered to maintain the place at his own expense if given control over the fur trade at that point, was given the seignury of the fort and its adjoining lands. During his time of administration there, he seems to have shown considerable ability. Fort Frontenac in his time, we are told, consisted of wooden barracks, lodgings, a forge,

well, mill, and bakery, with a village of French settlers in the fort, and beyond that a village of Iroquois Indians, and the house and chapel of the Recollet friars, Buisset and Hennepin; but La Salle speedily had the wooden defences replaced by stone ramparts and bastions, and also had built for his fur trade four small-decked vessels, the first that ever floated on Lake Ontario.



The Rodelbahn.

JEALOUSIES AND MISUNDERSTANDINGS.

At Fort Frontenac, however, came the beginning of La Salle's trouble. The merchants of Canada, jealous of the favor with which he was regarded by the Governor, and the fur-trading privileges which came in its wake, speedily became his bitter enemies. Moreover, although La Salle appears to have been unusually happy in his dealings with the Indians, he had little or none of Champlain's powers of securing the enthusiasm of those of his own countrymen with whom he had to do. An excessive reserve and shyness appears to have wrapped him about with a mantle of aloofness and sealed his lips. "A man of great intelligence and sense," one who met him about this time on one of his trips to France wrote of him, "but he rarely speaks of any subject except when questioned about it, and his words are few and very precise."

But if La Salle said little, he thought much and dreamed more. He had the vision of the venturer, the man who breaks past the commonplace and the orthodox and blazes trails, trails which the multitude who one day spat upon

that fair dream must be left for a later issue.

(To be continued.)

Travel Notes.

(FROM HELEN'S DIARY.)

Garmisch, Dec. 28, 1913.

We are up in the high mountains of Bavaria, having the jolliest kind of a time. There are six of us—all students from Munich. Two are Chicago girls who are studying art; one is a handsome, dark-eyed Russian pianist; and one a lively, red-headed Irish widow, who is soon to appear on the operatic stage. Olivia and I call ourselves students, too—because we are grappling with the German language.

Munich was so depressingly gray and drizzly that we made up our minds all at once to escape, and come up here among the snow peaks where the sun was shining, for, when Munich is blanketed in fog, Garmisch—only two hours away—is bathed in glorious sunshine.

When we got off the train, the first thing we heard was the merry sound of sleighbells. In a few minutes we were all piled in comfortable cutters, with lots of fur rugs, and were whizzing off over the snow to the Villa Alpenrose, where we are all staying. We have rooms, and take our breakfast here, but our midday



One of the art students made a pencil sketch and presented it to me. Attached to it was this rhyme:

Little Helen put on skis,
And down the hill went toten;
But ran into a German sign,
Which read: "Baden verboten."

meal we take wherever we happen to be, and our supper we usually bring home in paper bags when we return from our day's jaunt. For we are out from morning till night, walking over the hills, or amusing ourselves at the Sportplatz.



Figures Sculptured in Snow Near the Partenkirchen Winter Sportplatz.

him, soon make haste to follow with feverish anxiety and self-love. Fort Frontenac was to him but a stepping-stone, for already he saw a glorious picture blazoned beyond the veil of the future—a vast continent, busy, prosperous, a vaster if newer France,—and he would bring this about.

But the story of the working out of

One never tires in this fine mountain air. We are so ambitious that, we are even considering a ski trip "over the hills and far away," not very far, of course, for we are not proficient enough yet to tackle anything higher than a ten-foot hillock up which we struggle painfully, and down which we go in various unexpected and improper ways. Walking with

a five-foot-long toboggan on each foot is an alpine form of locomotion that takes time and patience to acquire. It's perfectly astonishing what a lot of things can get in your way when you are shooting swiftly down a snowy incline,—that black dog, for instance, which cavorted joyfully across the foot of the hill just as I had started down with my two toboggans close together in the proper manner. As soon as I saw that black dog my feet flew off in different directions, my nerve deserted me, and I shot head first into a pile of snow. Do what I would, I could not get myself untangled, so I had to remain there till a couple of men came over and yanked me out and put me in an upright position again. Skis are certainly the kinkiest things in existence. They seem so contrary sometimes that one is inclined to believe they are actually possessed by evil spirits—their actions are so full of malice and spite. They absolutely refuse to be guided by reason (at least, so it seems to beginners). In skiing, it is always the unexpected that happens. That is one of the fascinations of the sport. Having practiced the art for four days, I speak with the authority of an expert.

Garmisch and Partenkirchen are two little mountain villages which lie side by side in the valley, and share the same railway station. They are both very popular summer resorts, and in winter are even more popular. Everybody goes there for the winter sports. Each village has its Sportplatz, where the old and the young resort daily for the one purpose of having a good time. Each Sportplatz has a ski course, a rodelbahn (hill for coasting), and an ice-field for skating, hockey-playing, and ice-shooting—the latter something like curling.

In Germany, a hill and a hand-sleigh seem to bring the generations together, just as the game of golf does in Canada. But it certainly did look ridiculous to me at first to see portly, old, white-whiskered gentlemen festively attired in juvenile clothes, shooting madly down hill on diminutive hand-sleighs, and then dragging the sleighs up hill again with all the burning enthusiasm of youth. And keep on doing it all day, too, with short but frequent intervals for refreshments. Although the grandfathers were so numerous and so actively kiddish, the grandmothers were not so thick—that is, they were thick when it came to waist measures, but there were not so many of them, and they were more sedate, their chief amusement being walking, hill-climbing, and observation. A rodelbahn is a most attractive and picturesque sight. The bright costumes, the swift and incessant movement, makes the hill look like a human kaleidoscope. The sporting costumes that I had gazed at in horror in the shop windows of Munich—bright reds, vivid greens, and glaring yellows—look most effective as splashes of color against a background of snow and pines.

The regulation sporting outfit consists of a woollen sweater, cap, scarf, mittens, and knickers—usually of one color. The dress of the women is the same as that of the men, except that sometimes a short skirt is worn. However, most of the girls discard the skirt altogether. In skiing it is seldom seen, and while the skitless costume looks appropriate on the snowy mountain slopes, it does not look so attractive on the village street. The slim women look fairly well, but the fat ones cause considerable mirth—they look like illustrations for comic journals. But the mirth is usually confined to stragglers from other countries. To the Germans, all the Germans look all right. But comfort and freedom of movement are the main considerations in winter sports, and so it is good-bye to the troublesome skirt and its handicaps. Equal freedom for men and women.

But I never imagined that human feet could assume the mammoth proportions that they do in Garmisch. A slim girl of seventeen will have feet the size of a railway porter's. But after you get used to the sight of big feet, small ones look quite inadequate and absurd. We decided to have ours enlarged, so we invested in some thick, woollen stockings, and then hied to a shoemaker's and purchased some huge, heavy-soled shoes of stout leather. At first we could hardly move in them they felt so weighty and clumsy, but we soon got accustomed to them, and now regard them as our best friends.



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TORONTO

Mention This Paper.

Of course, we tried all kinds of sports, and as a consequence are beautifully brocaded with bruises and covered with scratches. But what are a few scratches if you are having a jolly time! It was reserved for the two art students, however, to create the sensation of the hour on the rodelbahn. They were seized with a desire to make a coasting record, so rented a sleigh-for-two, and walked cheerfully up the hill, full of happy visions of the future. The rodelbahn is steep, and has a very sharp curve near the top. The two art students arrived at that curve so suddenly that they hadn't time to do anything but fall off in a shamefully leggy way, while their sleigh went careering unsteadily down hill by itself. Except the loss of a heel, and the addition of a few more scratches, there was no injury done except to their feelings, which were terribly mangled by the unkind laughter of a lot of people who were looking on.

In Garmisch, and all the country roundabout, the natives always greet the strangers with the salutation, "Grues Gott!"—which means—God greet you. An elderly English dame, nice but stupid, told me she once spent a summer in Garmisch, and on her daily tramps through the country was always saluted with "Grues Gott" by any peasants she chanced to meet. She did not know any German, but thought the expression sounded like the exclamation, "Great Scott!" so she went on bowing to them, and saying "Great Scott" to them all summer long.

One night we went to the theater—a very primitive place, just a big hall full of rough, wooden tables, at which the audience sat and drank beer and munched pretzels while the play was going on. Most of the men smoked those long, fancy pipes, always seen in Bavarian pictures. It was a very feathery audience, but the feathers were on the hats of the men. No Bavarian peasant would think of wearing a hat without a feather in it. The theater was heated with stoves, and was fairly warm until the stage curtain went up, when a blast of cold air, apparently straight from the North Pole, made everyone shiver and pull up their wraps. The play was local in subject, and the actors all peasants from the district. They acted remarkably well, but their dialect was so thick and woolly we could understand very little of the dialogue. There was some very spirited and noisy schuhplattchen dancing, and that we enjoyed immensely. But the smoke nearly suffocated us. Those Bavarian yard-long pipes make as much smoke as a factory chimney. By the end of the evening the hall was blue with an odoriferous haze, and although we escaped from the haze, the odor still clings to our clothes.

And after all we DID have a Christmas tree. We had planned to ignore Christmas entirely owing to the melancholy feelings of some of the students who were suffering from that far-from-home-and-kindred sort of homesickness that attacks wanderers in foreign climes when the winter holiday season approaches, so we agreed to treat Christmas Eve as plain Wednesday night, and to consider Christmas simply as Thursday. But you never can get rid of that Christmas spirit which hovers around and takes possession of people about the 25th of December. It comes in all sorts of surreptitious ways, and in all kinds of innocent-looking disguises. It entered the Villa Alpenrose in the form of a pine bough which one of the art students had picked up on the mountain path in the afternoon. She said it was so pretty and graceful, and looked so lonesome lying on the snow. So she carried it home and stuck it in the water-pitcher on the washstand—just to prolong its life, and immediately that little bough began to swell with pride to think it was raised to such a lofty social eminence. It perked up in the most astonishing way, and began to take on all the aristocratic airs of a real Christmas-tree. It looked so hopeful and expectant that Olivia took off her neck-chain and hung it on a twig. It was that sly Christmas spirit, of course, that prompted her. Then, one suggestion followed another so quickly that in five minutes that erstwhile neglected branch had bloomed out into a diminutive Christmas-tree, covered with glistening jewels and gay bits of ribbon, and all the sparkling things that could be fished out of six suit-cases. A gay, red shawl was draped over the water-pitcher, and

six bedroom candles placed around the tree by way of illumination. The sight was so cheerful that everybody was in the gayest of spirits.

The supper-table (we always had our tea in the art students' room, on the top floor, where we could make all the noise we wanted to without disturbing anyone) fairly groaned with delectable "extras" that had been smuggled in; there was even a bottle of wine which came in slyly concealed in a muff—not because it was Christmas. Oh, no; but just because it was Wednesday night. And if you thirst for wine on Wednesday night, why should you deny yourself just because it happens to be Christmas Eve?

After supper a veritable Santa Claus with a pack on his back stamped into the room. He was sprinkled with real snow, and had a flowing beard of absorbent cotton. He fished the presents out of his bag with great solemnity, and with each gift he made a speech—short, but appropriate. One girl was given a cake of soap with which to keep her reputation clean; another one some tooth-powder to polish up her ideas; another a bottle of shoe-polish to make her hair rival the Seven Sutherland Sisters' flowing locks; another a bottle of listerine to preserve her Western accent, etc.

An impromptu vaudeville show followed, each one being required to "do a stunt." The most thrilling number was a hair-raising scene from Carmen, given by the red-headed Irish widow, to the accompaniment of a weird comb orchestra. The stabbing scene—in which the butter-knife was plunged into her heart by the jealous rival—was terribly realistic. Her dying shriek as she fell to the floor was blood-curdling.

The melancholy Russian student wakened up from her sad dreams and gave a very spirited imitation of Anna Pavlova, the celebrated Russian dancer. The applause was so loud and persistent, that she had seven recalls, and finally, in order to quell the disturbance, gave as an encore (with the assistance of a sheet) a sensational representation of a wintry blast, the comb orchestra blowing itself perfectly breathless in a vain effort to keep up with her swift movements.

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Pigs and Tuberculosis

Is the pig the only animal subject to human tuberculosis as well as bovine tuberculosis? PAT.

Is it because your name is Pat that you are interested in pigs? There are two different ways in which animals may be subject to tuberculosis, one when they contract it naturally in the ordinary course of everyday life; the other when they contract it by artificial inoculation, i. e., taking the germs of tuberculosis or something containing them, and putting them into the animal purposely for experimental purposes. The guinea-pig (which is no relation to ordinary pigs, of course,) is an animal which seldom, if ever, contracts tuberculosis in nature, but it is so subject to it, when the germs are artificially inoculated, that it makes one of the best tests we have for the identification of tuberculosis germs we are not sure of, or for the discovery of tuberculous germs in material where they are present in numbers too small to be found readily with the microscope.

Dr. Maria Montessori

This is true of the human tuberculosis germ, and also of the bovine tuberculosis germ. The bovine tuberculosis germ inoculated into rabbits, grows also, although rabbits are also very seldom, if ever, affected by it in nature.

Swine are very susceptible to bovine tuberculosis, so much so that the laws in some parts of the country forbid the sale of any skim milk for feeding to swine, unless the milk has been "sterilized," lest some of the milk should contain bovine tubercle germs. (Note.—We have not yet gone so far as this in protecting human children!)

Horses, dogs, cats, and sheep, seldom show any form of tuberculosis. Chickens and turkeys often do, but the tuberculosis they usually have is called avian, or bird tuberculosis, and is not dangerous to man, although rats and mice contract it also.

Of course, mankind is susceptible to bovine as well as to human tuberculosis. But it must be remembered, first, that bovine tuberculosis, practically speaking, does not greatly affect human adults, but chiefly children under 16, and not many of them. Second, that it seldom produces even in children, tuberculosis of the lungs, but only of glands, bones, and intestines: this means that it can very seldom be passed on from one child to another; finally, that bovine tuberculosis is transmitted to children almost wholly through the use of raw milk from tuberculous cows, not by eating the meat of such animals.

Bovine tuberculosis in the human is quite serious enough, and worth very anxious efforts to get rid of—about five to seven per cent. of the total tuberculosis in humans comes from cattle. But it is also a very serious source of loss to the farmer, because of the damage to his stock. If it did not affect the human at all, still it would be one of the most serious problems of modern agriculture.

RE CISTERN IN CELLAR.

(a)—Please tell us if you think the standing water in an open cistern in a cellar would have any injurious effect on food kept near it. Cistern is cleaned out once a year; would it have a tendency to make cellar too damp? (b)—What do you consider is best home treatment for croup? By proper precautions, could an attack be prevented in a child that is inclined to take it?

BLUESKY.

Yes; an open cistern in a cellar is a source of humidity for the atmosphere of the cellar that would tend to keep the atmosphere saturated with moisture, or, as we ordinarily say, damp.

All germs, including bacteria, yeasts, moulds, etc., grow best where there is plenty of moisture and vegetables; meat and other things, even the wooden beams of the underpinning may develop growths of these germs, in a damp cellar, where they would not in a dry one. It is not that the germs come from the water and fly up into the cellar, of course—they cannot fly or jump, or even creep very far. The germs are in or on the meat, vegetables, etc., before they go into the cellar at all. In a dry cellar, the surface of the meat or vegetables, etc., would tend to be dry, and the germs would tend not to develop; but with plenty of moisture, the harder ones, especially the moulds, have a good chance to grow. If the cistern is watertight, a watertight cover over it would keep the cellar dry. Of course, if there is seepage from the cistern, the moisture will probably soak up to the cellar floor and make the cellar damp, even though there be a watertight cover.

It is not wise to have an open cistern in a cellar anyway, for people may fall into it, or throw things into it, or rats and mice may fall into it.

But remember this: smallpox, typhoid fever, diphtheria, etc., do not develop from damp cellars or open cisterns.

The germs of these diseases are not hardy at all, and no amount of moisture in the air would be sufficient to enable them to grow on raw vegetables or meat, etc., at ordinary cellar temperatures. Besides, they could not develop there unless someone took them there first.

CROUP.

(b)—Croup is a name given to two very different diseases. Sometimes it means simply diphtheria of the larynx or upper part of the windpipe, the "Adam's apple," in fact. There is nothing to do

for this but keep the patient quiet and absolutely away from all the others until the doctor comes, with antitoxin. The other disease called croup is a spasm of the larynx, giving a hoarse, "brassy" cough, something like a very hoarse rooster crowing. It has a very alarming sound, but seldom results seriously. Remember, it is the "croup" that comes on rather slowly that is likely to be dangerous, i. e., diphtheritic. The "croup" that comes on very suddenly in a healthy, well child, without fever, often is very dreadful in sound and appearance, but is usually really very trivial, except as it disturbs the child and the family.

The real trouble is to know which disease the patient has; and so the quicker you can get the doctor, the better. Prevention of diphtheritic croup depends on keeping away from people who have diphtheria. Prevention of the other kind of croup (spasmodic croup) depends on clearing up inflammatory conditions of the nose and throat, since the secretions from these, accumulating near the glottis when the child lies down, probably are the cause of the spasmodic cough. A sharp emetic will usually relieve the attack, by getting rid of this accumulation. The prevention depends chiefly on keeping the nose and throat clear, and in a healthy condition, removal of adenoids if present, and similar measures.

H. W. HILL.

Hope's Quiet Hour.

Thine is the Glory.

Let your light so shine before men, that they may see your good works, and glorify your Father which is in heaven.—St. Matt. v: 16.

As usual, it is my pleasant duty to thank those of our readers who have sent me contributions for the needy. One reader sent \$5.00, and three others contributed \$2.00 each. I thank the givers for their trust in me, and will try to use the money as they would wish. On that very cold day, when the mercury never climbed nearly up to zero, I found a family whose only fuel was coke, which was bought in 5-cent lots and carried home by the children. Two of the five children had whooping-cough, and the rent swallowed up nearly all the scanty earnings of the father, who—like thousands of other people—could only get a job occasionally. Some of your money fitted in there. Two dollars bought a warm overcoat for a boy in another family, who had been coming regularly to S.-S. in very thin and shabby clothes. Two dollars went for food for another family, where sickness and want of employment caused great need. One dollar cheered a poor working-girl who has just passed through a serious operation, and will not be strong enough to earn anything for some time. Probably I shall give her another dollar (or spend it on nourishing food for her). So many people have been out of work this winter that there is no difficulty in finding cases of real need, and I never give money—at least, not your money—unless I know the people and feel sure it will not be wasted. Your gifts have been appreciated greatly, and the recipients send their thanks.

Now, let us consider our text. It is a very searching one, though its familiarity may perhaps dull its effect. This is an age of "good works." Nearly everyone is captivated with the self-evident fact that it is more blessed to give than to receive. Even those who seem to consider the pursuit of riches worthy of a lifetime of effort, yet usually say and think that they want to be rich so that they can "do a great deal of good." On the surface that seems very satisfactory, but out Lord is never satisfied with surface goodness. It is not enough that men should see a Christian's good works, his light must "so" shine that the world will not glorify him, but his Father in heaven.

It is said that in China a missionary can speak with greatest effect from the door of a native Christian's house. The neighbors, who have studied his altered life, give God the glory, and are en-

Advertisement for Fairy Soap featuring a young girl in a white dress. Text: "Have You a Little Fairy in Your Home?" BIG and little folks soothe the weariness from the work or play of the day, and invite healthful, restful slumber, when the bedtime bath is with Fairy Soap. FAIRY SOAP is so clean, sweet and pure—and cleansing withal—that when you once try it you never will be without it for toilet and bath for the whole family. The oval cake fits the hand and floats where you can reach it. It wears down to the thinnest wafer—economical. THE N.K. FAIRBANK COMPANY LIMITED MONTREAL

Advertisement for Mangel Turnip Seed and Field Carrot Seed. Text: MANGEL TURNIP SEED FIELD CARROT SEED. Did you ever miss your mangel or turnip crop through seed that did not germinate? If you have had that experience you will appreciate getting fresh seeds. We know our seeds are full of life. We have tested them all. No guess work. Then, again, there is a saving in the price. Do not put off till seeding time, when often you go to the nearest store to get doubtful seed. Surely it is worth your while to sit down and order good live, fresh seeds direct. Our mangels and turnips are put up in 1-lb. cotton bags. There is nothing better to be got. Our catalogue describes accurately all our varieties. (If you have misplaced it or did not get one—drop us a line. It will be forthcoming by next mail. It is of interest to everyone who cares a living on a farm.) If you are ordering Clover Seed, Timothy Seed, Grain or Seed Corn, your Mangel and Turnip Seeds can go along with them at 5c. lb. less than prices herewith quoted. MANGELS.—Keith's Pricetaker, Danish Sludstrup (a new intermediate, very fine). Prices for both, postpaid, lb., 35c.; 5 lbs. or over, 30c. MANGELS.—Keith's Yellow Leviathan, Yellow Intermediate, Mammoth Long Red, Giant Half Sugar. Prices, postpaid, lb., 30c.; 5 lbs. or over, 25c. SWEDE TURNIPS.—New Century, Scottish Champion, Elephant. Price, postpaid, 30c.; 5 lbs. or over, 25c. per lb. Keith's Pricetaker. Price, postpaid, 35c.; 5 lbs. or over, 30c. MAMMOTH SMOOTH WHITE INTERMEDIATE CARROT.—Price per lb., 60c., postpaid. Geo. Keith & Sons, 124 King St. East, Toronto Seed Merchants since 1866

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All these pests can undo your hardest work and bring your labor to nought. There is one efficient way to fight them, saving to yourself the dollars they would devour, and that is to get a **Spramotor** and let it do the work of destruction thoroughly in its own economical way.

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Wild mustard can be killed in the growing grain at a cost of only 60 cents an acre—with a **Spramotor**. You can clear your land of all noxious weeds just as cheaply and turn unproductive tracts into big money-makers. Here are some figures for you:—A plot of land (sprayed) produced 84 lbs. of crop and 1½ lbs. of mustard. A plot exactly the same size (unsprayed) produced 16 lbs. of crop and 112 lbs. of mustard. Was the **Spramotor** worth its cost in this case?

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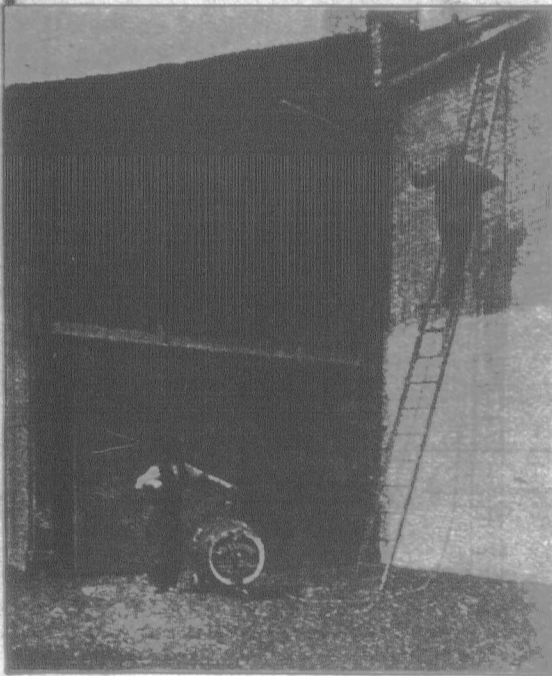
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Write us telling what you need a **Spramotor** for and we will send you complete information of the best style of machine to fit your requirements. We will also forward you a copy of our valuable illustrated book on Crop Diseases, **FREE**. This puts you under no obligation whatever, so don't delay—write while the matter is in your mind.

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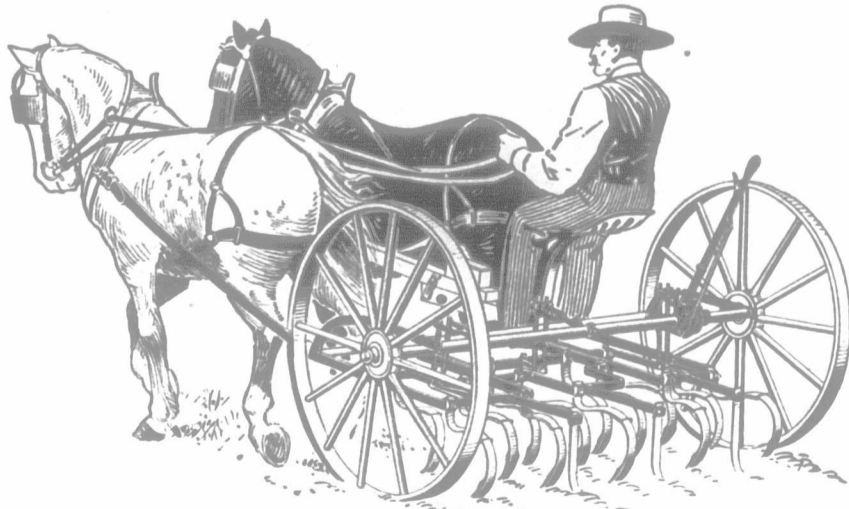
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couraged to put themselves also under His orders.

In one of A. C. Benson's stories, a young clergyman is described, whose sweet charm of manner and desire to please won friends for him everywhere. Suddenly he awoke to the fact that his sermons were intended to please his hearers rather than to do them real good, that his courtesy and grace of manner—and even his kind actions—were inspired largely by a desire to win the approval of the world. His righteousness had been done "before men, to be seen of them,"—was it really righteousness at all? He seemed to himself like a shallow brook, rippling on its easy way, while others admired him as a full and deep river. With all his heart he fought the deadly evil which was secretly eating the heart out of his fair-seeming good works. He had held up his light and allowed it to so shine that men should see his good works and admire him. If even the light was darkness, how great must be the darkness. His outward life went on as before after this startling awakening; he preached diligently, and went in and out among his people; but, instead of admiring himself and seeking the approbation of his fellows, he was filled with shame at his own unworthiness, and felt that his offering of service was not pure enough to be laid at the feet of his Master. He desired that God should be glorified, caring less and less about his own glory.

It is not for our sins only that we need to ask forgiveness, but for our cold and self-centered prayers and hymns, for our gifts to the poor and visits to the sick, for our Sunday-school work, and attempts to help forward the spiritual life of others. It is pleasant to give generously—when others are sure to notice the gift. It is far from easy to give money and service, looking for no return of admiration or praise. The light must be allowed to shine before men; they must never have the right to say that Christians are "close," bad-tempered, careless about paying their just debts, or selfish and lazy. For the honor of their Master they must be faithful in small matters and in great, so that others may believe in His righteousness which is the inspiration and the strength of theirs.

We have a horror of the mocker of God, who would daringly put a false coin or a worthless button on the offertory plate. Let us be careful lest we offer Him "works" which are only apparently "good," money which is not really given to Him at all, but only paid out to buy worldly admiration for ourselves, prayers and praises which only come from the lips, and are a mockery of Him Who looks deep into our hearts—counterfeit coin.

On the fly-leaf of my Book of Common Prayer is written a prayer which I certainly need to use very often. Will you offer it up for me, so that Hope's Quiet Hour may go out each week for the glory of God? This is the prayer:

"Thy glory alone, O God, be the end of all that I say;
Let it shine in every deed, let it kindle the prayers I pray;
Let it burn in my innermost soul, till the shadow of self pass away,
And the light of Thy glory, O GOD, be unveiled in the dawning of day."

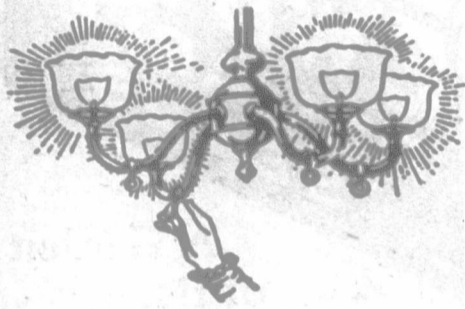
How can the good works of Christians bring glory to God? Suppose a professed atheist is selfish and dishonest, no one is surprised; but if a professed Christian is a disgrace to his profession, scoffers make a great fuss about it. Does that not prove that the very name of Christian makes people expect some improvement in the outward life? As a bad Englishman in a foreign country makes the people around him despise and dislike the English people, and a very good Englishman wins renown and glory for his nation; so it is with Christians.

The greatest hindrance to missions—at home and abroad—is the careless, ungodly life of many who profess to be Christians. When good works are really shining and beautiful all the way through, with no corroding vanity and selfishness to spoil them, they help forward the cause of Christ marvellously. We are all inspired by beauty and goodness, and it is the perfect self-sacrifice of Love on the Cross which captivates hearts in all lands. But the taint of self in our own hearts makes us suspicious of the motives of others. Because we are too

Dr. Maria Montessori

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often trying to "show off" our good actions, we are apt to think other people are the same. We despise "showing off" when we detect it—or suspect it—in some other philanthropist, do we hate that sin when it lurks hidden in our own gifts and service?

Sometimes the sight of one's own deformity will stir up a live repentance. A man who had become suddenly rich, was flinging away his opportunities and life in reckless drinking. His wife's pleading was unheeded, but one night he fell helplessly to the ground, and his face was disfigured by bruises. In the morning his wife silently held before him a hand-mirror, and he was horrified at the sight of his wretched, disfigured face. Seeing what he was, and knowing what he might be, filled him with shame; and he began a different kind of life from that day.

There is a story told of a young Japanese in America who came to a Christian minister and asked very earnestly about the beautiful life. He had seen an old carpenter in California living it, he said, one who went about doing good. The minister put a New Testament into his hands and told him to study it. Some time afterwards the young man came back and said: "I have found the beautiful life—have found JESUS." That carpenter let his light so shine that it lighted a soul to Christ, it was plainly seen to be a reflection of the Light of the World.

Dr. Grenfell was once captain of a football team. After a big match, one day, they were dressing in a saloon parlor when a man got on a table and began to read a portion of the Bible, making vile comments on what he read. "It was natural enough," says Dr. Grenfell in describing the incident, "to ask the man to refrain till I was no longer forced to be present, to which, sheepishly enough, he assented. Some years after, a poor student who had gone wrong, came to my great surprise—to ask advice from me. He had been in the saloon, and told me that my feeble protests had gone to his heart." The Doctor goes on to say: "I feel sure that a protest against doubtful things, naturally and modestly made in places where such things would be expected to go unchallenged, does more for Christ than much more valuable ones made in gatherings where everyone is looking out for such things."

It is not easy to speak for Christ in the face of banter and ridicule—especially when one is young and sensitive to the opinion of the world—but that is the kind of witness bound to glorify God and help forward His cause.

A famous composer of music was accustomed to write on the top of his sheet, "In the Name of the Lord." When the composition was completed, he wrote below, "Thanks be to the Lord." If each work of ours were really consecrated in that fashion, how beautiful our lives would be. When Morse had, through years of toil and hardship, perfected his telegraph, the first official message which he sent flying over the wire was: "What hath God wrought!" He did not claim the glory of the great discovery—the power and the glory were God's alone.

John the Baptist was given every opportunity to glorify himself, but he declared himself to be only a "voice," bearing witness to One whose shoe he was not worthy to untie. So every faithful preacher is simply declaring God's message; and every religious writer is a stenographer of God, whose business is to faithfully transcribe His words.

Let us join in the great anthem: "Blessing, and honor, and glory, and power, be unto Him that sitteth upon the Throne, and unto the Lamb for ever and ever."

DORA FARNCOMB.

A Thought From Emerson.

"The things we now esteem fixed shall, one by one, detach themselves, like ripe fruit, from our experience, and fall. The wind shall blow them none knows whither. The landscape, the figures, Boston, London, are facts as fugitive as any institution past, or any whiff of mist or smoke, and so is society, and so is the world. The soul looketh steadily forward, creating a world before her, leaving world's behind her. . . . The soul knows only the soul; the web of events is the flowing robe in which she is clothed."—The Over-Soul.

Grasshoppers in Winter

HENS need animal food as much as they need grain. In summer they forage. Grasshoppers, bugs, worms and insects are a big part of their food, and the result is eggs in plenty.

To get eggs in winter, the successful poultryman gives his laying hens the same food as they get on free range in summer.

True, he cannot get grasshoppers. But he can supply the same food value in the shape of meat and bone.

Government Bulletins, incubator catalogues—in fact all poultry authorities—preach emphatically that a good egg yield cannot be obtained without meat and bone.

The question now is for every farmer, every poultryman and every amateur poultry raiser, to get good meat and good bone at a fair price.

You could not feed cleaner meat than **BLACK VICTOR** Meat Scrap, which is made from good healthy meat. Water and waste weight are dried out, leaving solid meat food with a small portion of bone—the very best egg-producing ration. **BLACK VICTOR** Meat Scrap is thus worth far more than the same weight of fresh meat. At \$4.00 for a full hundred-weight, it is a most economical food.

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Order before the best egg season is past.



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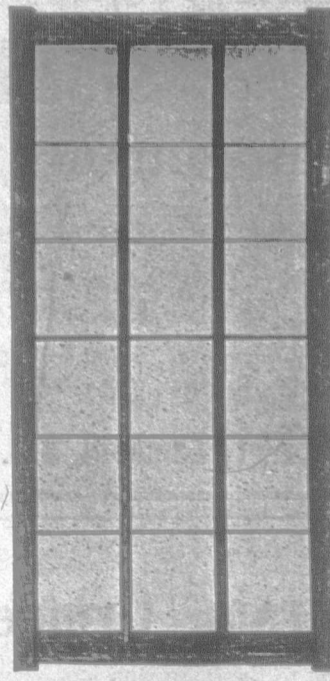
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Sizes: 3 ft. 2 ins. wide by 6 ft. long, for 4 rows of 8-in. glass, \$1.20; 3 ft. wide by 6 feet long, for 3 rows of 10-in. glass, \$1.15.

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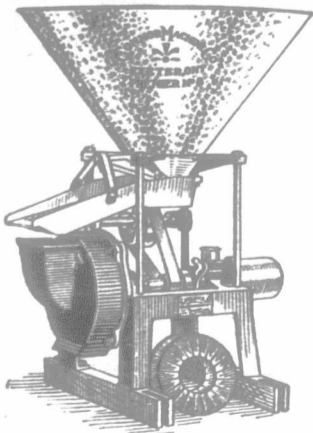
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A Chinese Helen Keller.

The "Chinese Helen Keller" she has been called, this little Wang Fung-Ying, in far-away Chefoo. Perhaps the claim suggests too much, for although the progress of Wang Fung-Ying has been marvellous, Helen Keller is possessed of a genius all her own; the like of her is not to be expected more than once in many centuries. Nevertheless, Wang Fung-Ying has already surmounted almost insuperable difficulties, and she is still young; a long lifetime of opportunity lies before her.



Wang Fung-Ling.

The "Chinese Helen Keller," with her teacher, Miss Carter.

As you may have heard smallpox is one of the scourges of China, a terrible scourge, to be dreaded not only for its distress and danger at the time of the malady, but also for its possible after-effects in case the patient recovers. Perhaps greatly due to it is the fact that in China at the present day there are 400,000 deaf mutes, and among those a pitiful few that are not only deaf mutes, but blind deaf mutes.

Wang Fung-Ying was but little more than a babe when the dread disease laid its sealing finger on lips, eyes and ears, and so, like Helen Keller, she was growing up in absolute ignorance, in a black, silent world, whose thought we, possessed of our faculties, can scarcely even imagine. Examine your thought. Is it not chiefly dependent upon mind-pictures—pictures of something seen, or heard? Imagine, then, what it would be to have practically one's whole thinking connected with the finger-tips, those finger-tips that must become, oh, so sensitive.

Like Helen Keller, then, the little Chinese girl went about, ever touching and feeling, and like her also, she gave way often to violent outbursts of "temper"—yet not temper; rather as has been said, "Nature fighting for expression."

Then, into the world of the child came a new influence, an influence that was to give her intercourse with the thought of the world, that was to build up for her thought itself, the greatest light that humankind can know. During the years that she had been struggling in her dark world, there had been working towards her in far-away New York the good spirit who was to give her, through those same sensitive fingers, ears and sight, and at last that good spirit came to China. It (shall we say?) was known as Miss A. E. Carter.

Miss Carter began her public life as a nurse in the Bellevue Hospital, New York City, but subsequently served for three years as one of the health inspectors of the public schools in the big metropolis. Eventually the call came to her to go to the Orient, and so she became a teacher at the Chefoo School for the Deaf.

Even this meant a staggering task. She had not only to learn the Chinese



A Garden of Beauty and Fragrance

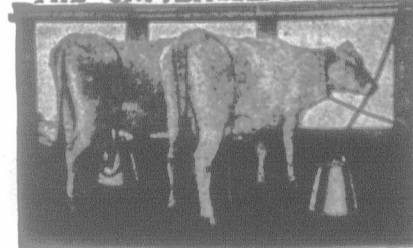
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HINMAN THE UNIVERSAL MILKER



Over 2400 sold last year in the United States alone.

The Hinman Milker

Buy it, because it is a better milker

No Hand Stripping Required.
PRICE \$50 PER UNIT.

H. F. BAILEY & SON
Sole manufacturers for Canada
GALT :: ONTARIO

SEED CORN

your money back if not satisfactory.

Dent varieties.
RUSCOM RIVER FARM,
Essex Co., - Deerbrook, Ont.

Please mention "The Farmer's Advocate."

Dr. Maria Montessori



Endorsed
by
Beginners
and
Experts

Prairie State Incubators

Are Guaranteed

to be absolutely as represented, or your money will be refunded upon the return of incubator in good order.

The best possible evidence of their efficiency is contained in the fact that Canadian Agricultural Colleges are successfully using Prairie State Incubators in their practical and demonstrative work. Write them for their results. Hundreds of others, both beginners and experts, have told us of the excellent results they obtained in hatching strong, healthy chicks that have lived.

Send for this FREE BOOK, "How to Hatch Chicks that Live." It gives reasons why the Prairie State is better, shows the best kind of Hoyer, tells how to build brooders, the kind of feed to use, and how you can obtain the experience of others. Write for it to-day.

We offer the best cash market in Canada for eggs and poultry. Ask for quotations.

Gunn, Langlois & Co., Limited
61 St. Vincent St., Montreal

Take Good Care Of The Colts

It's cheaper to raise colts than to buy horses. But it's costly if you lose the colts. Keep a bottle of Kendall's Spavin Cure handy. For thirty-five years has proved it the safe, reliable remedy for spavin, splint, curb, ring-bone, bony growths and lameness from many causes.

Kendall's Spavin Cure

is sold by druggists everywhere at \$1 a bottle, 6 bottles for \$5. Get a free copy of our book "A Treatise on the Horse" at your druggist's or write us.

Dr. E. J. KENDALL CO., Enosburg Falls, Vt.

GOOD JOBS

YOU can become a competent chauffeur in a very short time by taking our thorough and complete Auto Course. Our instructors are specialists in their line and our equipment is most complete. Illustrated booklet will be sent free on request.

Y.M.C.A. AUTO SCHOOL
1281 Broadview Ave.
Toronto, Ont.



Deafness



Perfect hearing is now being restored in every condition of deafness or defective hearing from causes such as Catarrhal Deafness, Relaxed or Sunken Drums, Thickened Drums, Roaring and Hissing Sounds, Perforated, Wholly or Partially Destroyed Drums, Discharge from Ears, etc.

Wilson Common-Sense Ear Drums
"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable.

Write today for our 168 page FREE book on DEAFNESS, giving you full particulars and testimonials.

WILSON EAR DRUM CO., Incorporated
Inter-Southern Bldg
LOUISVILLE, KY

Imported **CLYDESDALES**
Two stallions rising four. Write or come and see.
JOHN J. MILLER,
Surradale Farm, Staffs, R. R. No. 1.

language, with its innumerable characters, but also to learn the language by the Bell Visible Speech Symbols. Later, when the little blind deaf mute came into her charge, it was necessary to master the Braille or raised-letter system, but the work of teaching the child was simplified somewhat by the assistance of Mrs. Sen, a graduate of the Teng Chow Tu Girls' High School.

As with Helen Keller, the first word chosen to be taught to little Wang Fung-Ying by the manual alphabet was d-o-l-l, and naturally the same difficulty was encountered, that of making the child understand that the movements on her fingers signified the dolly put into her arms so often. Indeed, in the case of the little Chinese girl, three months' work on the part of Miss Carter and Mrs. Sen were required to convey the idea.

At the end of that time light came, and henceforth the task was easier. By the end of ten months the girl had mastered the Braille system of raised letters, and had become able to communicate with those about her. Her fits of temper, too, became fewer and fewer as the apparent necessity for them vanished; Wang Fung-Ying had become a reasonable human being.

Wang Fung-Ying's teaching has been carried on in a little one-story Chinese building back of Chefoo, and a lady traveller in China has written for the Sunday-School Times an interesting account of a visit to her there.

When the visitor arrived the girl was brought to the room. Gropingly she reached Miss Carter's side, and at once held up her hand to be told what was wanted of her. "Go into the garden, and pick some flowers for the visitor," she was told, and instantly she went out, returning presently with a large bouquet.

After coming in she discovered that she had lost her hair-ribbon, and wrote in Braille on her slate, "Lost my hair-string among the flowers."

For some time Miss Carter has been teaching her to speak, the system followed being that used with Helen Keller, placing her fingers upon the larynx, lips, nose, and sometimes the tongue of the teacher. Already she can speak some words and sentences. She takes a great interest in all that goes on at the school, and, needless to say, finds her greatest happiness in sitting by her teacher, whom she importunes at all times, "Teach me."

With but half of the application and concentration of these wonderful, blind, deaf girls, what could not we, who are possessed of all our faculties accomplish?

Mrs G. and her Methods.

Mrs. G.'s husband has just bought a new piece of property. Indeed, he is one of the men who will always be land poor. No sooner has he managed to get one lot or one farm paid for, than he has eyes on another. As a consequence, when he dies, someone will be land rich—that boy and girl who are growing up now, minus all other advantages, in order that the land may be paid for—and very possibly the hard-gained land will fly to make possible automobiles and all sorts of luxuries.

Mrs. G. does not at all object to the buying of new properties. Indeed, she and her husband are very much alike in this matter, and it is very pleasing to her to think that when she and James have gone, Kathleen and Leonard will be left with plenty.

In the meantime, however, those eternal payments must be met, and so there must be pinching,—and what more natural than that the pinching must be done where it will not show? Appearances must be kept up for the sake of the respectability of the family. The close level of the richest in the neighborhood must be maintained; it is quite necessary to get a new rubber-tired buggy—that old one is so shabby; the drawing-room simply must have a new hardwood floor; and so the story goes.

But—well, Leonard simply can't have that course at the O. A. C. that he is craving. It can't be afforded because of those payments; and anyhow he will have plenty of land when all is paid for. Kathleen cannot go to High School, either; it costs a good deal to keep a girl in town nowadays. But, well, she'll be marrying some day, and Mrs. G. fervently hopes that "he" will be a rich man. At all events, Kathleen will have

AUCTION SALE — SMALL FARM

AT "JANEFIELD FARM," GUELPH
JERSEY CATTLE AND HORSES

The undersigned has received instructions from the proprietor, W. J. BEATY, to sell by public auction that splendid small farm of Fifteen Acres, being parts of Lots 6, 7 and 8, Con. C., Guelph Township, and part of "Janefield Farm," exactly one mile from street car and O.A.C., and 1½ miles from Guelph.

On Friday, 20th of February, At 1.30 o'clock Sharp

On the premises is a seven-room house, with sun-room and good cellar, the whole newly painted and in first-class condition. A row of spruce and black walnut trees surround the field adjacent to house, which fronts on College Avenue. The land is in a very high state of cultivation, and suitable for market gardening or intensive farming. There are 30 good young apple trees on property, which are very prolific.

This property is one of the best that will be offered, and is suitable either for residential purposes or market gardening. Two years ago, on four acres of this property, \$850 worth of roots and vegetables were sold, and the land has always been noted for its heavy yields. The position is exceptional, and for anyone looking for an ideal place to settle, and have all the advantages of country and city, as well as being close to the O.A.C. and Macdonald College. This in itself is worth a great deal to anyone who wishes educational advantages.

The reason for offering this property is that the owner has a sufficiently large farm left, and wishes to curtail his working expenses. Sufficient good grade lumber to build a good size barn will be allowed.

TERMS AND CONDITIONS will be made known when the property is offered — There will be sold at the same time and place, the following:

COWS AND HEIFERS

20 head Jersey Cattle, including 10 cows fresh and due to calve, 2 two-year-old Heifers due in April; 8 one-year-old Heifers. The cows have all milking records, nothing having been kept except what would produce, and nothing more need be added than the fact, that from the sale of twelve cows \$30 per week has been made from the sale of cream. The cows are all in calf to Brampton Merger, and the heifers are good foundation stock. All the cattle are from the best strains, and have been selected from such stocks as J. B. Cowans and Mr. Clark, Norval, and Henry Glendinning, Manilla. This is a good chance to get a good cow, and the record of each cow will be given. The owner is retaining some pedigree cows, but all offered are for unreserved sale.

HORSES

6 horses: 2 three-year-old colts in hands of breaker. A good matched team, 1 two-year-old Clyde, 2 one-year-old colts.

TERMS—10 months' credit or 6 per cent. per annum off for cash.

CHAS. M. CRAWLEY, AUCTIONEER, GUELPH P.O., R.R. No. 6

Why not Electric Light on your Farm?



The "LISTER-BRUSTON" AUTOMATIC ELECTRIC LIGHTING & PUMPING INSTALLATION

Gives all the conveniences of town lighting.

YOU TURN ANY SWITCH IN THE HOUSE THE PLANT STARTS AND STOPS ITSELF

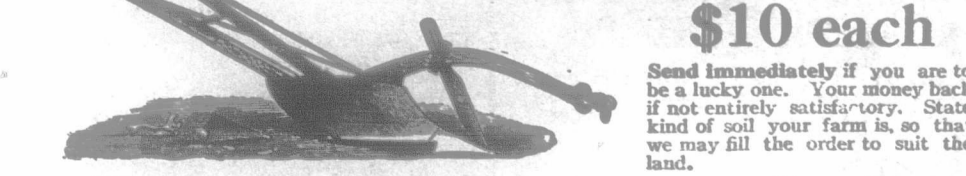
NOTHING BUT THIS

Descriptive catalogue, prices and full particulars on application to

R. A. LISTER & CO., LIMITED
58-60 Stewart Street TORONTO, ONTARIO

100 Standard Walking Plows

Suitable for all soils in Eastern Canada and British Columbia. No. 33, No. 30, No. 21, No. 8, No. 7, No. 5, No. 4, No. 2. The famous "Essex Centre" line to be sold at factory price



\$10 each

Send immediately if you are to be a lucky one. Your money back if not entirely satisfactory. State kind of soil your farm is, so that we may fill the order to suit the land.

Wheels extra, 75c. each. Skimmers extra, 75c. each.

Erie Iron Works, Limited, St. Thomas, Ont.

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisements inserted for less than 10 cents.

BARRED Rocks, R. I. Reds, White Wyandottes, S. C. Browns and White Leghorns. Wm. Bunn, Denfield, Ont.

BRONZE Turkeys, heavy toms and hens. G. E. Nixon, R. S. Iderton, Ont.

CARLUKE Poultry Yards highest class exhibition Barred Rocks, winners again at Guelph Show the Premier Show of Canada; also at Toronto. Some choice cockerels. Either cockerel or pullet matings for sale. Write for prices. We have the goods. G. Morton & Sons, R. R. No. 4, Box 130, Hamilton, Ont.

EMBDEN Gander, Rouen Drake, Light Brahma cockerels. A. Stevens, Lambeth, Ont.

FOR SALE—A few more pairs of choice Pearl Guinea fowl. J. E. Malton, Uxbridge, Ont.

FOR SALE—Some of my winners in Embden, African and White China Geese, Pekin, Indian Runners and Muscovy ducks. Be quick if you want good birds. E. S. Baker, Guelph, Ont.

FOR SALE—10 Barred Plymouth Rock cockerels of the famous Pittsfield heavy laying and early maturing stock. Price \$2 each. A. Flawn, 158 Wharncliffe Road, London, Ont.

FOR SALE—Mammoth Bronze turkeys; prize-winners at the Western Fair, also Guelph. Angus Beattie, Wilton Grove, Ont. R. No. 1.

FOR SALE—A few choice Rose Comb Rhode Island Red cockerels, from my best laying strain, two to five dollars each. Howard Smith, Winona, Ont.

FORTY-FIVE varieties fancy poultry. Hand-some catalogue free. S. A. Hummel, Box 23, Freeport, Illinois.

GUINEA-PIGS for sale. A variety of colours. A dollar fifty a pair up. L. R. Boys, Fergus, Ontario.

MAMMOTH Bronze Turkeys for sale, winners at the Guelph Winter Fair. Also Embden Geese. A. McDougal & Son, Milton, Ont.

PURE-BRED Pekin ducks, \$2.00 each; Toulouse geese, \$3.00 each; Pearl Guineas, \$1.50 a pair. L. Mullock, Watford, Ont.

SINGLE Comb White Leghorn and Barred Rock cockerels \$2 each, satisfaction guaranteed. Bert Warder, Spry, Ont.

WHITE Wyandotte cockerels from heavy laying strain, \$3 each, two for \$5. Write quick. They won't last long. W. B. Powell, Galt, Ont.

Have Your Chickens Got The Roup?

Discovered by prominent London poultry breeder, C. & W. Liquid Roup Remedy, a positive cure for Roup, Canker, Chickenpox and kindred diseases. The discoverer being keenly interested in the success of the poultry community in general has decided to place his remedy at the disposal of all who care to give it a trial. Read these letters from well known poultry breeders:

Jan. 30th, 1914.—Oliver Bong of E. & O. Bong, breeders of all varieties of Bantams, Base Line, London, Ont. writes: "We have used your C & W Liquid Roup Remedy with great success on our Bantams in case of Roup, Canker and Chickenpox. We would not be without it, as there is nothing else that we have ever been able to get that will cure them as quickly or as effectively."

Jan. 16th, 1914.—F. C. Dulmage, Former Secy. London Poultry and Pet Stock Association, London, Ont. wrote us the following letter: "I have used with splendid success C. & W. Liquid Roup Remedy manufactured by The Specialty Agency on very aggravated cases of Canker and Chickenpox. It is easily applied and does its work quickly."

To all wishing to try C. & W. Liquid Roup Remedy we have made up a thousand trial bottles which we will mail to any poultry breeder on receipt of 25c. to cover cost. Standard bottle \$1. Dealers wanted everywhere to represent us. Write us.

THE SPECIALTY AGENCY,
134 Carlisle Street, London, Ont.

WANTED—HIDES TO TAN

For robes, coats, etc., horse hides, cattle hides and furs. No leather tanned.

B. F. BELL, Delhi, Ontario

Seed Peas

Yielded 30 bus. per acre on 17 acres. For particulars and sample. Apply

BOX T, FARMER'S ADVOCATE, LONDON, ONTARIO

You can make \$3,000 to \$10,000 yearly, raising Mink, Fox, Skunk, Muskrat. Fur farming is a big success. For particulars write W. H. Katt, B 423 Ridgeway Ave., Chicago, Ill.

Cream Wanted

Toronto consumes daily the milk and cream from over 14,000 cows, and the butter from over 70,000 cows. We need your cream. Write

TORONTO CREAMERY CO., Limited
9, 11 and 13 Church St., Toronto

Cream Wanted

We pay express charges on cream from any express office within 200 miles of Ottawa. We also supply cans. Sweet or sour cream accepted. Write for particulars to

Valley Creamery of Ottawa, Limited
Ottawa, Ontario

Please mention "The Farmer's Advocate."

a nice "dot" some day, when the land has been paid for and redistributed.

Mrs. G. and her husband do not see in the least the need for satisfying the craving to "know for knowing's sake," the need for a broader intellectual life that just now has possession of both Kathleen and Leonard, nor could anyone explain it to people of their type. Life to them means simply possession, and bye-and-bye Kathleen and Leonard will bow to their interpretation of it, and miss forever the glimpses and delights of the far country of exploration and dream.

If you go to Mrs. G.'s to tea, you see no evidence of scrimping anywhere. There are chickens and croquettes, salad and biscuits, trifle, and cake, and cream cheese, and olives, and dear knows what not. But the kewpies peeping in at the window when no guest is about, see a very different sort of living. "We can cut down on the table expenses," reasons Mrs. G. "No one will be the wiser." So the eggs are all sold, and the beef (all but the merest trifle), and there is never cheese, and the porridge appears with skimmed milk as an accompaniment because all the cream must go to the creamery.

Poor Mrs. G.!—Because James and Kathleen and Leonard look fairly well, she has never a qualm of conscience. She does not realize that constitutions may be slowly undermined by just such lack of nutritious food, nor that illness may be on the way because of it, illness ever so hard to throw off because of the poor constitution which has to withstand it. She thinks she is "economizing,"—but what short-sighted economy!

It would do Mrs. G. good if someone were to give her a few lessons,—lessons to teach her that the proteid foods, meat, fish, eggs, cheese, beans, peas, etc., are absolutely necessary for growth and repair of these bodies of ours which are always wearing out; that the carbohydrate foods and fats—potatoes, rice, cereals, tapioca, sago, nuts, etc., are needed for heat and energy; the vegetable foods because of their bulk and their mineral constituents, and that it pays to have a garden and orchard in which to grow cabbage, turnips, beets, parsnips, celery, spinach, artichokes, tomatoes, squash, cucumbers, apples, currants, plums, and grapes.

A further lesson would teach her that this list does not mean extravagance, because but one food from each class, at each meal, will give a fair balance,—a proteid, a carbohydrate, a vegetable, a fruit. Soon she would come to realize that a mixed diet is the ideal to keep normal humans healthy and bright, and in good-working trim, and that it never pays in the long run to narrow the bill-of-fare down to a few foods never changed.

Strange, isn't it? that so many folk realize well enough the necessity of feeding pigs and calves and cattle and horses well, but never seem to realize at all that it matters in the least what humans eat. And yet we humans are merely animals after all,—just animals with a little higher mental development. If we are not fed enough, nor the right things for body-building and maintenance, we dwarf and grow weak and incapable, and generally useless, just as the other animals do.

But is there no way of economizing on foods?

Why, certainly. To economize means to let nothing be wasted, but to put everything to its best use. Is it, then, no economy to put every scrap of food material, no matter how small, to use? Is it, then, no economy to know how to provide a proper "balance of rations" for humans without over-stepping the bounds and landing into the country of extravagance? It is an art to know how to find the happy mean, and the woman who finds it and can provide a pleasing variety at all times, displays both economy and brains, or rather, the economy that is the outcome of brains.

Mrs. N., who provides for tea steak and eggs, cheese, custard, and rich cake, is extravagant. Steak contains protein, so do eggs, custard, cheese, and rich cake. The meal is not balanced, and after eating it one has a sense of repletion. Mrs. S., on the other hand, who

Sell Your Skimmed Milk

Convert it into dollars by feeding it to your calves, along with a small portion of **Gardiner's Calf Meal**, the perfect cream substitute. You will save money, and make money three times a day. Better begin at once.

GARDINER'S CALF MEAL

The Perfect Cream Substitute

is now being discovered by new users every day, who declare it to be a good business proposition, anyway, it is figured.

It is a perfect substitute for cream or milk. You can raise just as good calves on **Gardiner's Calf Meal** as you can on whole milk, but at a great saving. You owe it to your bank account to take advantage NOW of the special offer below.

Special Offer!

We will ship to any address in Old Ontario one of our big hundred-pound sacks of **Gardiner's Calf Meal**, freight prepaid, for \$3.75.

Send to-day. This offer may not appear again.

GARDINER BROS., Sarnia, Ont.

A live representative wanted in each locality.

WANTS & FOR SALE

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 farm hand seeks situation. Apply, J. Ramus, 381 Church St., Toronto

FARM Wanted—100 acres or more, suitable for mixed farming, by March 1st. Write particulars to Box F, Farmer's Advocate, London, Ont.

FOR SALE—100 acres; good fruit and dairy farm; 500 fruit trees and small fruits; 2-story house and good farm buildings; spring water. Apply John Muxlow, Jr., R. 2, Watford.

FOR SALE—Two excellent 100-acre farms in Middlesex County, on good gravel road, four miles from Glencoe; soil rich clay loam. These farms are well fenced; good buildings and water. Will be sold reasonable; possession last of March. Archie McVicar, Mosa, R.R. No. 2, Glencoe, Ont.

FARM Manager. Situation wanted by experienced man. Stock farm preferred, willing to work on shares. Apply, Box 60, Farmer's Advocate, London, Ont.

FOR SALE—Choice young Ayrshire bull 17 months old. Address, Mrs. Geo. McCormack, Rockton, Ont.

FOR SALE or rent—800 acre farm in good wheat growing and mixed farming district, 400 acres under cultivation. For full particulars write Mrs. Gable, 55 Chantry Ave., Moose Jaw, Sask.

MAN Wanted to operate greenhouse for the Dominion Canners Farms at Wellington, Ont. Must have expert knowledge of growing tomato plants in large quantities. Apply stating experience, salary expected etc. M. B. Clark Wellington, Ont.

SNAP—307-acre farm, Saskatchewan; choice land, best district; good buildings and water; all cultivated. Low price and easy terms. Must be sold. Apply Box 65, Farmer's Advocate, London, Ont.

SEND for wholesale catalogue to Lancashire's Cheapest Drapery Warehouse, and learn how to increase income. Make money selling British goods, tablings, towellings, ready-made dress materials, ladies' overalls, pinafore muslins Cochrane's Warehouse, Victoria Bridge, Manchester, England.

WANTED—Farmer and wife for small farm with purebred stock. Husband to be thoroughly competent stockman and general farmer, able and willing to work. Wife to take care of house, to be capable and cleanly housekeeper, able and willing to do the work of farmer's wife. Essential that both be of high character. Apply to Frank Cockshutt, 42 Colborne St., Brantford, Ont.

Farmers—Make your concrete posts with a wood strip, and fasten the wire with staples. For description of forms, address: J. J. COOK, Cherry Valle y N. Y., U. S. A.

sets her table with cold meat (or cheese salad and celery), a potato salad with nuts, cake and fruit, knows what she is doing,—you see, a proteid, a carbohydrate, a fat, and a mineral. She is not extravagant; she is wise.

Often, however, the really economical woman finds it a worry to know how to use up scraps. It is so much easier to dump all the left-overs into the pig's feed and be done with it, and yet these bits that might be of so much use to humans with their comparatively small food capacity, really mean so little to the pigs. For such perplexed ones, there may be a few hints in the following, compiled from the experience of several recognized authorities on the subject.

Little Economies and Using Up Left Overs.

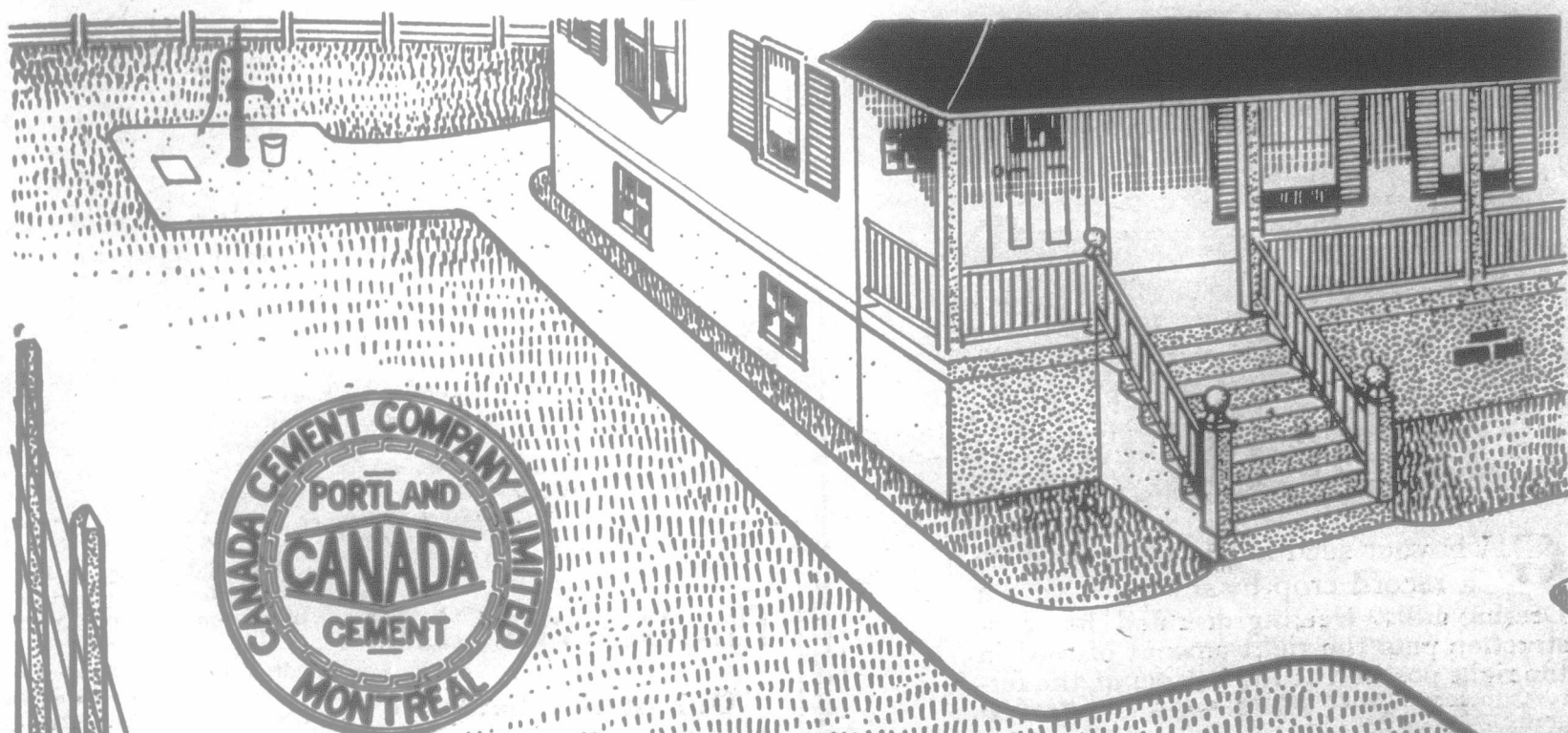
Stale Bread Pudding.—Break the bread in bits and soak in boiling milk for one hour before using, then beat well with a fork. When fine, add a little sugar, raisins, chopped suet, and a beaten egg. Put all in a greased dish and steam for two hours. Serve with a little jam or stewed fruit. If you choose, you may leave out the raisins and use instead the grated rind of a lemon, which makes a very nice flavoring.

Apple Custard Pudding.—Put 2 cups pared and quartered apples in a stewpan with 1 cup water, cover and cook until apples are tender, then mash them. Remove from the fire, add 4 tablespoons sugar, 1 tablespoon butter, and the grated rind and juice of a lemon. Mix 1 tablespoon flour with 1 cup stale bread crumbs and stir in. Last of all add 1 egg beaten light. Turn all into a buttered dish and bake in a moderate oven 1 hour. Serve hot with hard sauce.

Beef and Tomatoes.—Sprinkle the scraps of beef cut from the remains of a roast with salt, pepper, and flour. Put a layer in a baking-dish, then a layer of canned tomatoes, and so on, until all the meat is used. Make the top layer of crumbs mixed with melted butter. Bake slowly for one hour.

(To be continued next week.)

Dr. Maria Montessori



Concrete walks need no repairs

THEY are not only best at first but are cheaper in the end than any other kind of walk. They are clean, permanent and safe. There is nothing to become loose nor are they slippery. They improve the general appearance of a house, and are a source of great satisfaction to every housewife, because they keep children out of the mud, prevent colds from wet feet, and prevent dirt from being "tracked in" on floors and carpets. Equally important is the fact that they never wear out and never need repairs.

This free book, "What the Farmer Can Do with Concrete," tells all about concrete walks and how to build them, and a score of other things needed on every farm. Write for it to-day!

Farmer's Information Bureau

Canada Cement Co. Limited

559 Herald Building,

MONTREAL.



ENDED 1866

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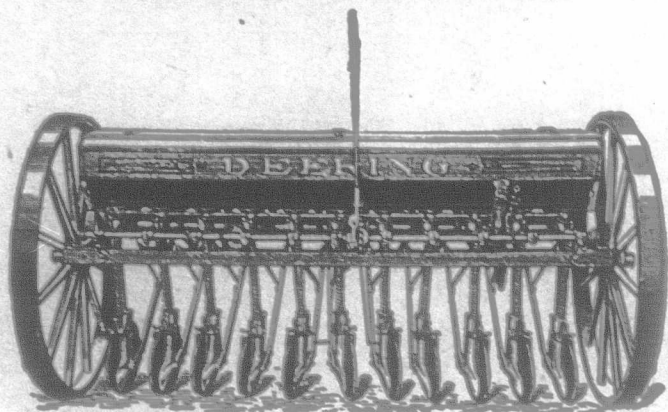
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Deering Drills



GIVE your seed a chance to produce a record crop by sowing it with a Deering drill. Deering disk and hoe construction puts the right amount of seed in the right position at the bottom of the furrow, to insure your getting a full even stand of grain.

No matter whether your ground is hard or soft, gravel or clay, smooth or rough, level or hilly, there is a Deering drill in the line that will plant your seed as it should be planted.

Examine Deering drill construction and the many features. Note the light draft, the large capacity grain boxes, the double-run force feed that handles all kinds of grain and seed, the ease of regulation to suit soil and seed—and a dozen other points to grow enthusiastic over.

See the drills themselves at the I H C local agent's place of business. Our catalogues tell you all the features of all the types. Get catalogues from the local agent, or write the nearest branch house.

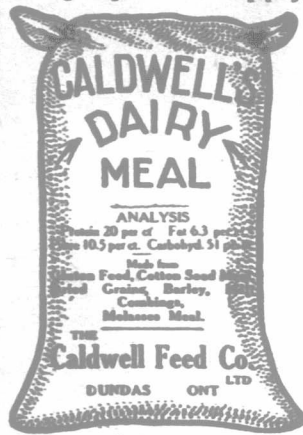
International Harvester Company of Canada, Ltd

Hamilton, Ont. London, Ont. Montreal, Que.
Ottawa, Ont. Quebec, P. Q. St. John, N. B.

These machines are built at Hamilton, Ont.

Caldwell's Dairy Meal

is not only another Caldwell product, but a feed scientifically mixed by the best known feed experts in the Dominion, for the purpose of supplying an existing and insistent demand.



It is manufactured from re-cleaned and carefully-selected materials, and is guaranteed to contain no mill-sweepings, oat hulls or other low-grade ingredients. More than that, its palatability is assured, because it contains the correct proportion of our Pure Cane Molasses Meal, together with a large variety of high-class feed stuffs.

Remember this: The ingredients of Caldwell's Dairy Meal are printed on the tag attached to every bag and guaranteed to the Government.

Here's the Guaranteed Analysis:

Protein - - - 20%

Fibre - - - 10%

Fat - - - 6.3%

Caldwell's Molasses Meal

It makes other feeds more palatable and digestible.

N.B.—You will oblige by promptly notifying us if your dealer hasn't Caldwell's Dairy Meal on hand. Write for booklet.

The CALDWELL FEED CO., Ltd., Dundas, Ont.

Molasses Meal, Dairy Meal, Cream substitute Calf Meal, Poultry Meals

GLENHURST AYRSHIRES ESTABLISHED OVER 50 YEARS high standard. We can supply females of all ages and young bulls, the result of a lifetime's intelligent breeding; 45 head to select from. Let me know your wants.

JAMES BENNING, WILLIAMSTOWN P.O.

Summerstown Sta., Glengarry



On Mount Pilatus.

By Helena Coleman.

I stood on Mount Pilatus, freshly crowned
In all the splendor of new-fallen snow,
And heard the bells of myriad flocks below.
Filling the valleys with mysterious sound:
Enchanting cadences, that lingering wound
Among the dreaming hills, elusive, slow,
And bearing in the liquid ebb and flow.
An elemental music, faint, profound.

And I have wondered if the joy and pain,
The happy laughter and the anguished sighs,
So strangely blended in our lives, attain
Consistency and sweetness as they rise,
And, woven to one pure, ethereal strain,
Make harmony beyond the tranquil skies.

The Beaver Circle

Our Senior Beavers.

[For all pupils from Senior Third to Continuation Classes, inclusive.]

The Friend I Met.

By Nellie M. Coyle.

I met a friend, the other day,—
He wore a cap of red;
Yet as I passed he did not deign
To lift it from his head.
Instead, he gave a saucy quank,
With head a-tilt, for he
Was just a downy woodpecker
A-tapping on a tree.



Woodpeckers.

Is any one of these of the "red-headed" species?

The Red-headed Woodpecker.

(By Gladys Dillon, Sr. IV, Longwood School.)

The red-headed woodpecker is found in Canada and the United States. His tail feathers are black, head and neck crimson, and that is how he gets the name of the red-headed woodpecker. The woodpecker lives on worms and gnats found under the bark. He walks up the tree aided by his feet, tail and beak. His feet are different from those of other birds. He has four toes, two at the back and two at the front. His tail is stiff, and props him while he is going up the trees. The woodpecker has a long, pointed beak in which he taps on the bark, and listens if he hears an insect moving about. If he does he pushes his beak in, opens his mouth wide enough to let his tongue out. Then he pushes his long, sharp tongue in and gets the insect and draws it into his mouth and eats it. The woodpecker also likes grasshoppers and beetles which are on the ground. He flies down and gets them, then goes to a top of a pine-tree and eats them. He also likes nuts. The woodpecker builds

its nest in old stumps and trunks of trees. The female lays four to six eggs. The woodpecker is a very noisy and quarrelsome bird, but this may be overlooked for the amount of insects he destroys.

Have you a bird-book, Gladys? You would enjoy Neltje Blanchan's "Bird Neighbors."

Senior Beavers Letter Box.

Dear Puck,—I want to thank you very much for the five dollars you sent me as first prize in the Garden Competition. I am afraid I shall not be able to compete next summer, as I am attending High School away from home, and when I return in June it will be too late to plant my flowers.

Please give my heartiest congratulations to the Beavers who won prizes in the competition.

Your little Beaver,
DOROTHY NEWTON.

Cloverdale Farm, Plaisance, Que.
Don't forget us, Dorothy. Good luck to you in your new work.

Dear Puck and Beavers,—My other letter went in the waste-paper basket, so I thought I would try my luck again. I suppose all the Beavers got a lot of Christmas presents. I know I did. My sister and I go to school nearly every day, and like to go. Our teacher's name is Miss Patterson. How many of the Beavers like reading? I have just finished reading "Little Women," and am going to start "Elsie Dinsmore." I will stop now and give the others more room. So good-bye, from your little Beaver friend.

HELEN J. McDOWELL.
Woodstock, Ont., R. R. No. 4.
(Age 10, Jr. IV. Class.)

Dear Puck and Beavers,—I am going to write to you again. I suppose you see that my address is changed. Well, we had the free mail route and that changed it. I love to read, and my favorite books are: "Freckles," "The Girl of the Limberlost," but I like "The Basket of Flowers," and the "Christmas Carol" very well. I like the books on nature best, especially those on moths and butterflies, and I like to catch them too. I do not think it is cruel because as "The Girl of the Limberlost" said, they only live a few days anyway, and people might just as well use their beauty as not for they are certainly lovely. My brother and I caught a case-full of insects I think they are very nice (even if I do say it myself). We have one of the rarest moths in America, which is perfect, besides other rare ones, and I expect to catch them in the large swamp which is near our place, where there are some lovely ones every year.

MARION BURCH.
Simcoe, Ont., R. R. No. 5.

Dear Puck and Beavers,—I have just finished reading the letters in the Beaver Circle. I like reading the letters very much, as they are so interesting. Papa has taken "The Farmer's Advocate" for a long time. I go to school every day. I have only half a mile to go. I got a sliver in my foot about the first of September and we could not see it in there. We kept plasters on it, hoping that it would come out. It did not come out, so we went to the doctor with it. He could not find it, so he gave me a plaster to put on it. I had the plaster on for two weeks when one morning a sliver almost three-quarters of an inch long came out. We still kept the plaster on it, and in about another week another piece half an inch long came out. I was certainly glad when the last piece came out, because I had not been at school for two months. Our teacher's name is Miss Morrison, from near Arthur; we all like her fine. Well I think I will soon have to close. I hope this letter escapes that hungry w.-p. b.

MILDRED SCOTT.
Varney, Ont., R. R. No. 1.
(Age 12 years, Class Jr. IV.)

Dear Puck and Beavers,—I have just finished reading some letters of the Circle which I was pleased with. We have taken "The Farmer's Advocate" two years, and like it the best of all the papers we take. I live on a farm and have lots of pets. We have a dog

Dr. Maria Montessori

THE DOMINION BANK

Proceedings of the Forty-third Annual General Meeting of the Shareholders.

THE FORTY-THIRD ANNUAL GENERAL MEETING OF THE DOMINION BANK was held at the Banking House of the Institution, Toronto, on Wednesday, 28th January, 1914.

Among those present were noticed: G. N. Reynolds, H. G. Horton, J. J. Foy, M.L.A.; James Watt, A. Foulds, W. C. Harvey, A. M. Nanton, Winnipeg; E. Burns, R. Wilkinson, James Matthews, Chas. B. Powell, C. Walker, Sir E. B. Osler, M.P.; H. W. Hutchinson, Winnipeg; D'Arcy Martin, K.C., Hamilton; F. E. Dingle, A. R. MacDonald, Epsom; H. R. Playnter, F. Boehmer, Chas. E. Lee, J. J. Cook, E. Roch, J. Harwood, J. Gordon Jones, F. LeM. Grasset, M.B.; F. H. Gooch, F. S. Wilson, J. D. Warde, C. P. Wooley, A. E. Gibson, R. B. Morley, W. McAdie, Oshawa; Dr. Chas. O'Reilly, Thos. F. Nivin, J. E. Finkle, P. Schoeler, James Scott, W. J. Waugh, Hamilton; A. McPherson, Longford; Judge McIntyre, Whitby; H. Morris, H. W. A. Foster, W. G. Cassels, F. C. Snider, W. S. Kerman, S. C. Halligan, Wm. Ince, H. J. Bethune, W. Mulock, Jr.; Rev. T. W. Paterson, Capt. D. F. Jessopp, Percy Leadlay, S. Jeffrey, Port Perry; G. E. Gross, J. K. Niven, E. T. Fisher, Ashburn; A. B. Fisher, Ashburn; M. S. Bogert, Montreal; F. L. Patton, Winnipeg; R. J. Christie, F. C. Taylor, Lindsay; F. L. Fowke, Oshawa; J. C. Eaton, L. H. Baldwin, W. R. Brock, R. M. Gray, R. Mulholland, A. R. Boswell, K.C.; J. T. Small, K.C.; S. W. Smith, Whitby; William Ross, E. W. Langley, J. G. Ramsey, E. C. Burton, G. McDonald, J. Carruthers, E. W. Hamber, Vancouver; F. J. Harris, Hamilton; W. D. Matthews, H. B. Hodgins, Dr. A. J. Harrington, C. S. Wilcox, Hamilton; Richard Brown, W. C. Crowther, W. Cecil Lee, Stephen Noxon, F. F. Miller, Napance; W. E. Carswell, H. Crewe, James Wood, W. T. Kernahan, J. H. Paterson, F. D. Brown, H. Gordon Mackenzie, Alfred Haywood, N. F. Davidson, A. A. Atkinson.

It was moved by Mr. E. W. Hamber, seconded by Mr. R. J. Christie, that Sir Edmund B. Osler, M.P., do take the chair, and that Mr. C. A. Bogert do act as Secretary.

Messrs. A. R. Boswell, K.C., and W. Gibson Cassels were appointed scrutineers.

The Secretary read the Report of the Directors to the Shareholders and submitted the Annual Statement of the affairs of the Bank, which is as follows:—

TO THE SHAREHOLDERS:

The Directors beg to present the following statement of the result of the business of the Bank for the year ended 31st December, 1913:—

Balance of Profit and Loss Account, 31st December, 1912.....	\$ 688,109 01
Net Profits for the year, after deducting all charges and making full provision for bad and doubtful debts.....	950,402 78
Premium received on new Capital Stock.....	811,344 80

Making a total of.....\$2,449,856 59

Which has been disposed of as follows:—

Dividends (quarterly) at twelve per cent. per annum.....	\$649,646.77
Bonus, two per cent.....	116,176.70

Total distribution to Shareholders of fourteen per cent for the year.....\$765,823.47

Contribution to Officers' Pension Fund.....	25,000.00
Transferred to Reserve Fund—Premium on New Stock.....	811,344.80
Transferred to Investment Accounts.....	200,000.00

Balance of Profit and Loss carried forward.....\$ 647,688 32

RESERVE FUND

Balance at credit of account, 31st December, 1912.....	\$6,000,000 00
Transferred from Profit and Loss Account.....	811,344 80

\$6,811,344 80

E. B. OSLER, PRESIDENT. C. A. BOGERT, GEN. MANAGER.

The Year 1913 was one of general financial and commercial depression throughout the world, which conditions became more accentuated during the closing months of that period. Your Directors, therefore, deemed it advisable to enforce a policy of conservatism without interfering with the requirements of legitimate borrowers.

The funds of the Bank were fully and profitably employed throughout the twelve months under review, resulting in a further increase in the net earnings, the disposition of which is dealt with in detail in the accompanying Report. A bonus of 2 per cent, was again distributed, in addition to the regular dividend of 12 per cent.

Following the announcement made in the last Annual Report, an issue of \$1,000,000 of New Capital Stock was made to Shareholders of record of the 15th of February, 1913. The whole of this issue was taken up, and although the final payments thereon are not due until June, 1914—\$811,344 of the amount had been paid up on the 31st of December last. The total Paid-Up Capital of the Bank was, on that date, \$5,811,344.

To meet the requirements of Section 56, Subsection 6, of the new Bank Act, you are now asked to elect auditors to serve until the next Annual General Meeting, and two written nominations have already been received in this connection.

You are also requested to sanction the passing of new By-Laws, necessitated by changes in the Bank Act and the advisability of having them more fully meet present circumstances.

Branches were opened in 1913, as follows:—New Westminster, B. C.; Fairview, Vancouver, B. C.; Fernwood, Victoria, B. C.; Medicine Hat, Alta.; Arlington Street, Winnipeg, Man.; Walkerville, Ontario; Danforth Avenue, Toronto; Eglinton Avenue, Toronto.

called Rover, who is a fine watch-dog, and a cat which we call Pussey. He sometimes gets into mischief. I tried to grow peanuts last year and had good success. I grew about ten bushels of pop-corn. I am going to try to grow mushrooms next summer.

I go to school every day and am in the fourth book. Sometimes in winter ice covers the road and we go out on the road with our skates on and catch on behind a sleigh or cutter and slide all the way to school. When we get there before school there is a large ditch in front of the school which we can skate on.

I used to have an owl for a pet, but we did not know what to feed it and it died. We used to have a red squirrel, but one day it fell and killed itself.

My letter is getting kind of long, so I will close with a few riddles: What is it which a man, no matter how smart he is, overlooks? Ans.—own nose.

Why is a watch like a river? Ans.—Because it will not run long without winding.

Why is the figure nine like a peacock? Ans.—Because without a tail it is nothing.

Who always enjoys poor health? Ans.—The doctor.

What subject can be made light of? Ans.—Gas.

NO NAME SIGNED. South Woodlee, Ont., R. R. No. 1.

The offices at North Vancouver, B. C., and Guernsey, Sask., were closed, a existing conditions did not warrant their continuance.

Very satisfactory progress is being made in the erection of the new Head Office building at the corner of King and Yonge Streets, Toronto, and it is confidently expected that the premises will be ready for occupation before the end of this year.

The customary thorough Inspections of the Head Office and Branches have been made, including the verification by your Directors of the Balance Sheet now presented.

All the Assets of the Bank have been carefully scrutinized by the Directors and Officials, and its Investment Securities are carried on the Books at conservative values.

Toronto, 28th January, 1914.

The Report was adopted.

In conformity with Section 56, Subsection 6, of the new Bank Act, Messrs. Geoffrey T. Clarkson and Robert J. Dilworth were appointed Auditors for the current year.

New By-Laws were submitted and passed by the Shareholders.

The thanks of the Shareholders were tendered to the President, Vice-President and Directors for their services during the year, and to the General Manager and other Officers of the Bank for the efficient performance of their respective duties.

The following gentlemen were duly elected Directors for the ensuing year: Messrs. A. W. Austin, W. R. Brock, James Carruthers, R. J. Christie, J. C. Eaton, J. J. Foy, K.C., M.L.A.; W. D. Matthews, A. M. Nanton, E. W. Hamber, H. W. Hutchinson, and Sir Edmund B. Osler, M.P.

At a subsequent meeting of the Directors, Sir Edmund B. Osler, M.P., was elected President, and Mr. W. D. Matthews, Vice-President, for the ensuing term.

GENERAL STATEMENT

Capital Stock paid in.....	\$ 5,811,344 80
Reserve Fund.....	647,688 32
Balance of Profits carried forward.....	171,393 08
Dividend No. 125, payable 2nd January, 1914.....	116,176 70
Bonus, 2 per cent., payable 2nd January, 1914.....	1,310 70
Former Dividends unclaimed.....	
Total Liabilities to the Shareholders.....	\$ 7,747,913 60
Notes in Circulation.....	4,630,890 00
Deposits not bearing interest.....	\$8,604,347 66
Deposits bearing interest, including interest accrued to date.....	51,184,242 71
Balances due to other Banks in Canada.....	\$59,788,590 37
Balances due to Banks and Banking Correspondents in the United Kingdom and foreign countries.....	540,263 77
Bills Payable.....	783,418 32
Acceptances under Letters of Credit.....	184,747 44
Liabilities not included in the foregoing.....	931,914 76
Total Liabilities to the Public.....	87,378 99
	\$66,947,203 65
	\$80,506,462 05

Assets	
Gold and Silver Coin.....	\$ 1,609,657 87
Dominion Government Notes.....	8,524,405 25
Deposit in Central Gold Reserves.....	500,000 00
Notes of other Banks.....	674,007 12
Cheques on other Banks.....	3,048,680 85
Balances due by Banks and Banking Correspondents elsewhere than in Canada.....	1,609,129 65
Dominion and Provincial Government Securities, not exceeding market value.....	\$15,965,880 74
Canadian Municipal Securities and British, Foreign and Colonial Public Securities other than Canadian, not exceeding market value.....	407,120 43
Railway and other Bonds, Debentures and Stocks, not exceeding market value.....	531,352 85
Call and Short (not exceeding thirty days) Loans in Canada on Bonds, Debentures and Stocks.....	5,299,059 57
Call and Short (not exceeding thirty days) Loans elsewhere than in Canada.....	4,651,964 71
Other Current Loans and Discounts in Canada (less rebate of interest).....	247,498 10
Other Current Loans and Discounts elsewhere than in Canada (less rebate of interest).....	\$27,102,876 40
Liabilities of Customers under Letters of Credit as per contra.....	48,495,567 06
Real Estate, other than Bank Premises.....	24,275 99
Overdue Debts (estimated loss provided for).....	931,914 76
Bank Premises, at no more than cost, less amounts written off.....	16,569 56
Deposit with Minister of Finance for the purposes of the Circulation Fund.....	146,132 38
Mortgages on Real Estate sold.....	3,488,029 08
	263,900 00
	37,196 82
	\$53,403,585 65
	\$80,506,462 05

Toronto, 31st December, 1913. C. A. BOGERT, GENERAL MANAGER.

FUNNIES.

A teacher told little Johnnie that the word "ferment" means "to work." Later in the day she asked the class to write a sentence containing the word "ferment" correctly used. Johnny wrote, "I would much rather play out of doors all day than ferment in school."

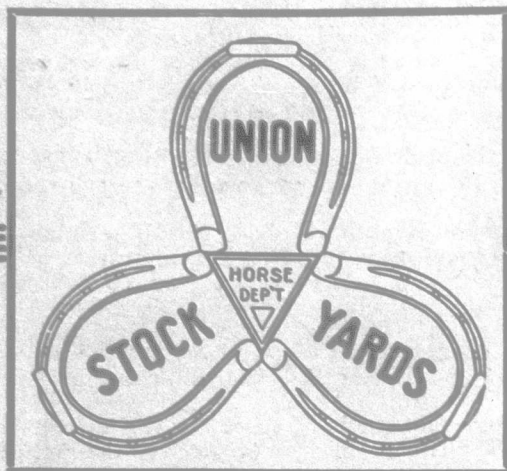
Tommy declared to his teacher that the word "furlough" means "a donkey." "Why, no," said the teacher. "But I will show that it does—in a book," said Tommy. Next day he brought the book and pointed triumphantly to a picture of a soldier riding on a donkey. Beneath the picture was the line, "Going Home on Furlough."

Our Junior Beavers.

[For all pupils from the First Book to Junior Third, inclusive.]

Dear Puck and Beavers,—Our school had a Christmas tree. We did it all ourselves. One of the boys acted as chairman. One of our best dialogues was, "A Scene in the Barber Shop." I am in one named, "The Day After Christmas." I made believe that I was sick. Here is a riddle: Which travels slower, heat or cold? Ans.—Cold, your ears catch it.

HERBERT McINNIS. Lyons Brook, Nova Scotia. (8 years, Grade IV.)



SEVENTH ANNUAL COMBINATION SALE OF PEDIGREED

Clydesdales and Percherons

Monday and Tuesday, Feb. 9 and 10, 1914

WILL BE HELD AT UNION STOCK YARDS (HORSE DEPT.)
TORONTO, ONT.

This sale is conceded to be the greatest annual event in Clydesdale and Percheron circles held in Canada.

Both imported and Canadian-bred breeding stock will be offered, and, if looking for same, it will be to your advantage to attend this sale.

Among the larger consignors to this sale is Mr. L. J. C. Bull, of Brampton, Ont., with a number of extra good imported mares in foal. Mr. W. W. Hogg, of Thamesford, Ont., offers a consignment of well-bred imported stallions, three years old. These horses represent the blood of such famous horses as Baron's Pride, Baron Buchlyvie, Pride of Blacon, Baron Beaulieu, Sir Hugo, etc.

Mr. John Gartshore, Auchinburn Farms, Mineral Springs, Ont., will offer a splendid lot of imported mares. Grand sire of these mares is Baron's Pride. These are young mares, and will make grand breeding stock for their purchasers.

Hodgkinson & Tisdale, of Beaverton, Ont., well-known for the high class of stock they handle, will have a consignment of choice young breeding stock at this sale.

Mr. W. J. Cowan, "The Maples" Stock Farm, Cannington, Ont., will be represented by the right kind of stock.

Mr. Alfred Lansdell, Humber, Ont., will offer some good prospects in young stuff.

Many smaller consignments will also be on hand.

This sale will include an especially good lot of mares of choice breeding, many of them in foal, and will afford breeders and farmers a splendid opportunity of securing good stock for renewal of their breeding stock.

Be sure and attend this sale, and make sure of getting some of this good stock.

Catalogues are now in the mails.

Auctioneer: CAPT. T. E. ROBSON, London, Ont.

Direct From Factory to You

Save \$5 to \$40
on any bed you buy

We sell you any grade and design of bed you need, at factory figures. No other Bed Company in Canada will do this.

Think of anyone selling you a brass or steel bed at a lower price than furniture stores pay. That's exactly what we do.

Write for our free, illustrated catalogue of brass and enamelled steel beds, cribs—also springs, mattresses, couches, divans and customers. Choose the article you need, in the style you prefer, pay us lowest factory price and we deliver the goods right to your station, bright, new and carefully packed—FREIGHT PREPAID.

30 DAYS TRIAL—360 DAYS APPROVAL TEST

We give you thirty days' free trial of any article you buy. If you are not completely satisfied, return the goods at our expense and we refund your money. We give you 360 days as a thorough test period so that you can try out your purchase on every point. During that time, if you find any de-

fect in material or workmanship, we guarantee to make it right or refund your money.

Hundreds of families have bought beds from us on this money-saving system. No need to pay double for beds. Our prices will astonish you.

WE PAY FREIGHT

Write today for free Catalogue

Quality Beds, Limited
Manufacturers, 115 Main St. Welland, Ont.



THE LUCKY LITTLE STAR.

By Miriam S. Clark.

"I'm a lucky little star!" sang the brightest in the sky.

"Of all the stars about me there is none so glad as I!

For every night at twilight, at the end of every day,

I can look right through a window, in a very pleasant way.

And watch a little mother, with a pretty, drooping head,

As she tucks a little earth-child up, and leaves him safe in bed.

"And when she's drawn the curtain back, and blown away the light,

She leaves the little earth-child to slumber through the night;

But never right to slumber,—our secret may it be,—

For every night the little child looks out and smiles to me.

No other star in heaven has so good a place as I!

"I'm a lucky little star!" sang the brightest in the sky.

Dear Puck and Beavers,—This is my first letter to your Circle. I enjoy reading the little Beavers' letters. I am a junior Beaver. I am eight years old. I like to go to school very much. I am always head of my class. I have been going to school a little over a year. I live on a farm of 160 acres. We have been on the farm six years. My father has taken "The Farmer's Advocate" ever since he came on the farm. I have a number of pets. I will tell you some of them. A pair of rabbits, a dog, three cats, and some goldfish. Mother bought the goldfish when she was in Toronto. I think they are very nice. I live a mile and a half from town. We live on the lake shore. It is very nice in the summertime because you can go in bathing whenever you want to. We have two boats. We go out in the boats and dive off the ends. We live on the shore of Lake Simcoe. Sometimes it is very rough on the lake.

TREVOR McLENNAN.

Beaverton, Ont.

(Age 8.)

Dear Puck and Beavers,—This is the second time I have written to the Beavers, as the one I wrote before was in the honor roll, so I thought I would try again. I go to school. I am seven years old and in the second book. Our teacher's name is Miss Anderson. We have four kittens, one dog and two ponies. I guess I will close with a few riddles:

What is smaller than an ant's mouth?
Ans.—That which goes in it.

What goes all the way from Hamilton to Toronto without moving? Ans.—The railroad.

What crow is most useful to a man?
Ans.—A crowbar.

Why is a farmer cruel to his corn?
Ans.—He pulls its ears.

MARION A. WALKER.

Milton, Ont., R. R. No. 3.

Dear Puck and Beavers,—I am going to write and tell about our school Christmas tree. We had great fun, first of all practicing our singing and recitations, dialogue, drills, etc. The day before we decorated our school with flowers, lilies and evergreens, and the next morning we put up our huge Christmas tree and hoisted our Union Jack outside. Well, our parents and friends all came, and we all did our parts very well, judging by the amount of clapping; then Miss Johnston, our teacher, distributed our presents given by her and our parents, and just as she was finished the alarm clock given by the school to her went off. She also got a portfolio from one of her school boys. Then the ladies passed around cake, chocolate fudge, and maple cream. We all went home happy. I got a pretty Christmas card from a Beaver from Owen Sound, but don't know her name. I thank her very much.

EVANGELINE O'HARA.

Mt. Carmel, Ont.

(Age 8, Book II.)



Wilfred Ferdinand Costello, son of J. F. Costello, Wentworth Co., Ont., and his axe, the Canadian George Washington, who chopped down an apple tree and said he did it. He is four years old and weighs 53 lbs., can stand and jump four feet seven inches, and chop more wood in an hour than our 19-year-old hired man, "when the boss is away." He can whistle a tune, he can also milk a cow, drive his favorite horse Dorchy on the sulky rake for second raking and stubble, drive a team on the roller. Churning, turning grip-stone, picking apples, potatoes, pumping water, carrying in the wood, washing dishes, etc., are only a few minor labors. He has an axe, pail, wagon, sled, foot-ball, rabbits and calf, all of which he sees get the best of care. His favorite job is chopping wood. As we keep good and bad accounts, he also heads the list. He has been to the States four times with his mother, who is an American. He cries to go to school, and awaits the arrival of each Advocate with great interest and positively declares he is going to be a farmer. While saying his prayers, which he never forgets, he always says, "Good night everybody, Good night God."

Dear Puck and Beavers,—This is my first letter I have written to your Circle. My father has taken "The Farmer's Advocate" for as long as I can remember. For pets I have a hen and a calf. I call the hen Fanny, and the calf Snowflake. We have one horse and three colts. The horses' names are Charlie and Pat, Nell and Jess. We have about 23 rabbits. We live on a farm of ninety acres of land. I go to school every day. Our teacher's name is Miss McFarlan. I like her fine.

Paris, Ont., R. R. No. 4.

ETHEL GEDNEY.

(Age 8, Class Sr. II.)

SOME AFTER-CHRISTMAS LETTERS.

Dear Beavers,—It really seems as though all the little Beavers want to write at once to tell "what they got" for Christmas, and although several "old" letters have to be held out to make room for them we are going to make room for a few of these "after-Christmas" letters to-day. I wish you would notice particularly the one written by Gladys La Dunn, St. Thomas. Gladys says she would like to receive letters from the Beavers, and I am sure I hope some hundreds of them will be sent to her. You, little Beavers, can do so much, just in this way, to give pleasure to this little sister Beaver who had such a sad Christmas.

PUCK.

Dear Puck and Beavers,—This is my first letter to your Circle. I always read the Beaver letters as soon as the Advocate comes home.

How many of the Beavers had a good time on Christmas day? I think nearly all of us did. I got a doll from old Santa this year; it is a big one, and it can sleep and cry. I also got a doll from my teacher. My teacher's name is Miss McGrath. We all like her fine.

I hope all the Beavers enjoyed their holidays. I had a good time skating and sleigh-riding down the hill. Did any of the Beavers ever read "Alice in Wonderland"? I have and I think it

Dr. Maria Montessori

is very interesting. Well, my letter is getting long, I will close wishing you all a Happy New Year.
Manitoulin Island, Evansville, Ont. ...
BEULAH BAILEY.
(Age 11, Book III.)

Dear Puck and Beavers.—This is my second letter to your circle. It is a long time since I wrote, but I saw my other letter in print so I thought I would write again. Our post office is changed, as the R. R. is started, and it is R. R. No. 1, Clandeboy.

We had a Christmas tree for the Sunday School, and it was loaded with presents. On Christmas day we were down at our uncle's and we had a Christmas tree there. A lot of my cousins were there also, and we had lots of fun. We had about twelve miles to go. It was about half past nine when we got home, and we were all tired from our day's fun. Well, I will close now. Thanks to the Beaver that sent me that pretty Christmas card.
MARGUERETE MAGUIRE.
Clandeboy, Ont., R. R. No. 1.

Dear Puck and Beavers.—I enjoy reading the Beaver Circle very much. We had a very sad Christmas this year, as my eldest brother was killed on his train the 21st of December. He was a Wabash fireman. My dear daddy died also the 15th of last June, so mamma and my youngest brother and myself are all that are left at home now. I have one sister Alice, married, living in St. Thomas, and one brother, Ernest, M. C. R. fireman. I have a dear little bird that Doctor gave daddy when he was ill, and I have a dear little dog whose name is Fox. As this is my first letter will some of the Junior Beavers write to me?
GLADYS LE DUNN.
St. Thomas, R. R. No. 5.
(Age 9.)

I want to tell you about the good times I had through the holidays. We had a nice Christmas tree. I got some nice presents. We spent Christmas at home and had our uncle and aunt and another friend to dinner. In the afternoon I went out skating and sleigh-riding with my brother and some other girls. I like to go out to the barn at night when papa goes out with the lantern to see the little pigs. We have 12 of them. We have a little dog; his name is Ben, and I have lots of fun with him. Well, I think I will close for this time.
FLORENCE BURNS.
Richwood, Ont.
(Age 10, Sr. II.)

Dear Little Beavers.—I will tell you what I got for Christmas. I got a doll that would talk and a skipping rope, a set of furs, and nuts and candies, a pair of kid gloves. We had a calf called Snowball, so I composed some verses about it. Good bye.
Your friend,
Komoka, Ont. AUDREY TUNKS.
Your verses didn't "rhyme," Audrey, so we cannot print them. Sometime, perhaps, when you are older you will understand what I mean. Which do you like better, your doll or Snowball?

Some Modern Girls.

In the course of a recent address in New York City, Irving Bacheller, author of "Eben Holden," "D'ri and I," and other stories, relieved his mind as follows: "We are beginning to despise work and trade; we are putting aside the old ideals. Leisure and fun are the things that seem to concern us most. Take the daughter of your butcher, or your grocer, or your baker. If he is a reasonably prosperous man, he sends her to a private school, where she learns the arts of leisure and of idleness, where she acquires all the delightful variations in the Fifth Avenue dialect. She generally has a pair of obedient and respectful parents; often she is ignorant of the distinction between an adverb and an adjective, but she can converse in French and sing in Italian; she can tell you much about the work of Botticelli and Fra Angelico, but she knows little of the work of her own home; she trills and warbles and motors and whistles; she en-

gages in the titivation of toy dogs; she pounds the family piano; she eats chocolates and caramels enough to fill a well; she dreams of sunbursts and tiaras while her papa worries about notes and bills; she lies on downy beds of ease with the last best seller and worst smeller, then rises and goes out in quest of adventures; she grows in fat and folly; often she is both ox-eyed and peroxide; to her, work is the only misfortune, fat the only burden, and pimples the great enemy of womankind; she has created what we are pleased to call the servant problem, which is only the drone problem, caused by the increasing number of those who toil not, but have to be toiled for. Even her system cannot do its work, and the physician and the surgeon are added to the list of her servants, and become as necessary as the cook and the chambermaid."

The Women's Institute.

Does Education Pay Morally?

[A paper read by Miss Viola McKnight at a meeting of the Ravenna Branch of the Women's Institute.]

No doubt there are many arguments pro and contra this subject, but on the whole I maintain education does pay morally. Of course, there are exceptional cases. For instance, if a man has not the right spirit, he can use his education to make himself all the greater villain. Byron was a great poet, but his life was morally a failure. I do not intend, however, to deal with this side of the topic to-day, but will endeavor to show that education does pay morally.

The ultimate test of education is moral character. It is vastly more important that youths should learn honor, purity and manliness, than that they should become expert as readers, grammarians, or mathematicians. Conduct is character made vocal and visual. It is the duty of the school to instruct the pupil in good manners, and give him some appreciation of what is beautiful and true. The general description of the Canadian boy, by foreigners, is his lack of manners. Education is doing a great deal in putting boys and girls into possession of refined manners, and in developing a high moral character.

It is an important matter to fill the minds of the boys and girls with many, many lines of good poetry and prose. Beautiful selections of poetry and prose have served as a talisman to keep at bay evil thoughts, dangerous suggestions and harmful actions. If this were all that the memorizing of good literature did, it would well compensate for all the time and effort expended. In addition to this, such selections furnish the possessor with lofty ideals. Pursuit and attainment in any endeavor should be along the line of individual ideals. We must wish for larger things, and picture them before we can realize them. Good literature will picture things for our vision and contemplation, and goad us to activity to attain them. The correct way of measuring an individual is to know what company he keeps during the hours of solitude. If the mind is filled with noble thoughts, the hours of solitude will be spent in contemplating them. Our thoughts will be fed from the crib of our possessions. As age may creep upon all of us, and as age is reminiscent in character, it is well to provide suitable reflection material for those oncoming rainy days by filling the mind with the richest and best of the world's enduring thoughts in the form of literature. All may be able then to enjoy declining years because of the inexhaustible storehouse of healthful thoughts upon which age will be able to feed. The thoughts contained in these selections will help us, and will help the boys and girls to live aright, which is one of the greatest purposes of human existence.

The motive for educating is not to escape toil and drudgery, but to increase efficiency by and through them, and to develop the powers of service. The most honorable garments in the world's history are calico and overalls, and the man or woman and the boy or girl who is ashamed to be arrayed in these when necessary, has become dis-

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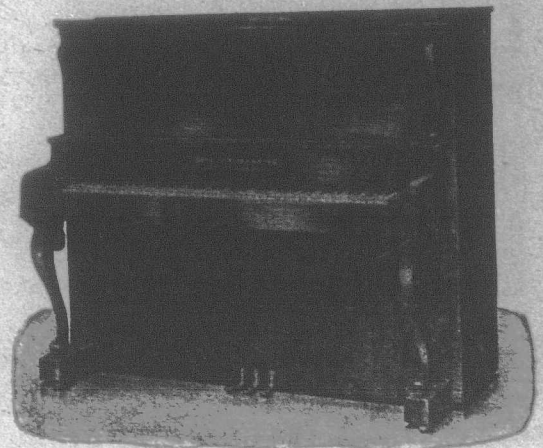
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possessed of the sense which should be common. Manual expression has always been the greatest blessing to communities, but it is the duty of the public schools to assist in preparing individuals to make manual labor intelligent. We are always in these days endeavoring to separate intellect and manual labor.

"We want one man to be always thinking, and another to be always working, and we call one a gentleman and the other an operative; whereas the workman ought often to be thinking, and the thinker often to be working, and both should be gentlemen in the best sense. As it is, we make both ungentle, the one envying, the other despising his brother; and the mass of society is made up of morbid thinkers and miserable workers."

Education is making the world better. When we view our own past—the past of our family, our individual experiences, our country, our world—the evil often vanishes in the perspective of time, and only the good is visible. On the contrary, when we turn our attention to the present, the forces of evil often seem predominant; and so we are apt to draw the conclusion that the world is growing worse. Such a view is most discouraging to all those who, like teachers, are trying to elevate humanity. While it is true that "wickedness in high places" is too prevalent, the thoughtful student of history knows that every form of twentieth century graft, corruption and vice prevailed to a degree many times greater in the "good old days."

Not only is the world growing better morally, it is improving intellectually; intelligence is more widely diffused than formerly, the schools are accomplishing more for the people at large than ever before. The "common branches"—reading, spelling, writing, arithmetic—were never before so well taught as now. This is not a guess; it is a fact established by vigorous tests. There is great room for improvement in our schools, but teachers who are doing their best may rightly enjoy the satisfaction arising from a consciousness that they are sharers in a movement which is propelling humanity along a constantly ascending grade.

How to Spend Our Winter Evenings.

[A paper read at a meeting of the Belmont branch of the Women's Institute, by Mrs. John Dawes.]

How to Spend Our Winter Evenings.

How to spend the long, winter evenings, in my mind, largely depends upon the tastes and ambitions of each individual. While some could spend their entire time embroidering one of the many things that are embroidered at this age, others could find no pleasure in it whatever, nor is it wise to devote one's time wholly to one particular line of work or thought. Let us lay all work aside, and occupy our minds with that which, in my way of thinking, holds a higher place than the finest piece of handiwork.

For instance, there is music. It is very rarely that a person cares nothing for music. It may be enjoyed alike by great and small, old and young, rich and poor, educated and uneducated. Whilsecular music fills one with life and drives one's cares away, sacred music has still a greater charm. It is not only pleasing to hear, but there is something about the mingling of the notes that carries one beyond all earthly things, and fills one's heart with peace and joy. The hymns, "My Country, 'Tis of Thee," "Home, Sweet Home," and "Nearer, My God, to Thee," are very simple in musical construction, but the beauty of these old-time melodies thrills us, when we weary of the classics by the great masters.

Then, again, sociability should occupy

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a portion of our time. Isolation means personal starvation. If you want friends, you must be friendly. Associate with the very highest intellectual people with whom you can come in contact. Invite them into your homes. They awaken us out of our dreams and actualize our possibilities, for no person can become greater unless there is some being up to whom he may look. I don't mean that by associating with the intellectual you must pass the neighbors by because they happen to be uneducated. Invite them, also, to your home, and give them the benefit of mingling with the educated, and, perchance, they may grasp some thought or word that will elevate them, and give them fresh food for thought while they plod on in their monotonous life, which life certainly must be for those deprived of an education whereby they may read good thoughts for themselves.

Then there is reading. What would you give in exchange for your love for reading? How ignorant and belittled we would be for all time, if it were not for reading! How few, feeble, absurd and childish are the thoughts of those that have no books! Books contain the experience, the conversation, the thoughts and deeds of great men and women. Books are the world's ages of wisdom stored up for the benefit of the readers.

Aim to read books that will make you think; also read much, not many books. A library in a village, town, or city, may contribute much to the progress of that place by reason of the thoughts stored upon its shelves.

Then, how very important to read current events. In this age of papers, periodicals, and magazines, it is inexcusable not to be informed in the events of the day. While current events today, they become history to-morrow, so they who grasp the present as it comes, have at their command the immediate past. History and economics are receiving more attention than ever before, because we want light on present problems. What we want to know is, how to construct the present to give the greatest satisfaction at the least expense, and this is possible to those only who know the present and fully comprehend current events, and are able to turn the knowledge thereof into proper use in our routine of daily life.

If no work is at hand and no books near, "ask questions." Nature has filled the world with wonders, and her interrogation points become interrogations naturally and necessarily in the minds of every healthy boy or girl, man or woman. One question answered is a hundred planted, and they spring up fresh and green, like living shoots about the roots of some great tree.

This habit of asking questions about nature and great books, calls out our reflective powers, trains us to think, and we reap a reward in increased possessions and enjoyment of the best things. This power of reflecting is not inherited. It is only gained by mental exercise.

Then we must, above all else, read and digest the book of all books—the Bible—and through it we may hear our Father speak words that never man spoke, which, if we heed and obey, will make us meet to be partakers of the inheritance.

He that loveth a book will never want a faithful friend.

Gossip.

On January 7th, at Saunemin, Ill., 22 head of Percherons, property of Holdridge & Son, sold for an average of \$408, the highest prices being \$700 and \$800 for stallions. The highest price for a mare was \$590.

At an auction sale of Herefords, on January 12th, by Williams & Lile, at Atlantic, Iowa, 27 females averaged \$171, and 11 bulls, \$165, the highest price paid being \$575 for the ten-year-old cow, Beau Maid.

At a joint sale of Shires, at Bushnell, Ill., January 15, property of C. C. & R. W. E. Williams, and F. M. Williams estate, the highest price reached was \$1,000, for the sorrel mare, Williams' Flower 3rd. Two other mares sold for \$600, and \$605. The 27 head sold made an average of \$400.

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Miscellaneous.

Association Dues.

I joined a breeders' association three years ago, and paid the annual membership fee for first year, and supposed when I ceased to pay annual fees that I would cease to be a member. Now they claim that I am still a member until I give them notice in writing three months before the end of the year. Can they legally collect membership fees for the past two years? J. W.

Ans.—We think so.

A Kicker.

What is good to prevent a horse from kicking at other horses in the stall? A. T.

Ans.—Build the stalls of sufficient length so that the animals cannot injure one another. Build them high enough that the horses cannot fight over the tops, and tie the horses short in the stalls. Place a rope or chain across behind the kicker to keep him up in his stall.

To Prevent Joint Ill.

*What is the prescription to prevent joint ill in a colt? T. J. O.

Ans.—Place the mare in a clean stall or paddock before foaling, and as soon as the foal is dropped, apply to the umbilical cord a strong antiseptic, as a ten-per-cent. solution of carbolic acid, or liquid formaldehyde, or a solution of corrosive sublimate 15 grains to 8 ounces of water. Repeat the application four or five times daily until the navel heals over.

To Stimulate Growth of Mane.

I have a three-year-old mare. She has rubbed out half of her mane in the middle of her neck. What can I do to make it grow as quick as possible? I want to exhibit her in the horse show in April. A. C. H.

Ans.—The growth of hair may be stimulated to a certain extent by rubbing well about once a week with an ointment composed of 1 dram cantharides, mixed with 2 ounces vaseline.

A Winter Ration.

Could you please compound a ration for dairy cows out of the following: Good silage, well cobbed; oat straw; turnips; oat chop; bran, and oil cake? G. T. W.

Ans.—The following ration will give you a very good mixture: Oat straw, 8 lbs.; silage, 35 lbs.; turnips, 20 lbs.; oat chop, 4 lbs.; bran, 2 lbs.; oil cake, 2 lbs. The silage will keep better than the turnips, and it might be advisable to feed a little heavier of the turnips and reserve the silage for spring feeding.

Oil Cake for Colt.

What amount of oil cake should a colt nine months old be fed, along with two quarts of whole oats and bran, and hay as roughage? Could it be fed any heavier on grain than this? It is a heavy colt, and I would like to shove it right along. Let me know anything else I could feed him. H. W.

Ans.—We take it that the colt is getting this grain feed three times daily. If so, start easily with the oil cake, giving about a good double-handful in his grain once daily in the beginning. Gradually increase until he gets this twice or three times daily.

Feeding Hens.

1. Should laying hens run outside when they like? 2. Is two quarts of grain too much, twice a day, for 30 hens? If not, how much? It is wheat and buckwheat. They get a mash at noon, and all other necessities. J. A. C.

Ans.—1. Under some conditions, yes. Hens on the general farm do better when the weather is not severe, to have free range. 2. No. This should be enough, provided green food, grit, and milk or meat food, are given in sufficient quantity. If a heavy mash is fed, it is plenty.

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Questions and Answers.
Miscellaneous.

These Hens Lie.

1. My young pullets lie two in a nest at night, instead of roosting with the other hens. Will this deform them, and how can it be stopped? We tried shutting up the nests temporarily, but they started again. Ought I to get rid of them, or can it be cured?

2. Is it usual?

3. Do laying hens require corn, and should it be given whole? They get wheat, oats, and buttermilk regularly.

A. B. M.

Ans.—1. Break them of the habit by closing the nests each night. It is not likely to deform them, but they should be broken of it.

2. No.

3. Corn is not absolutely necessary. In winter, a little is good for them mixed with other grains.

Holidays--Goat.

1. Would you kindly tell me whether a man hired by the year on a farm, can take New Year's Day as a lawful holiday? What are the lawful holidays on a farm?

2. Is a goat any protection to a flock of sheep? As a rule, would they be troublesome on fences?

N. M.

Ans.—1. New Year's Day is a holiday. Unless there is an agreement to the contrary, hired help in Ontario is entitled to Sundays, New Year's Day, Good Friday, Easter Monday, Victoria Day, Dominion Day, Labor Day, Thanksgiving Day, Christmas Day, and any other day or days proclaimed as public holidays. Usual farm chores must be done, however, on holidays.

2. Many people believe a goat is some protection from dogs when allowed to run with a flock of sheep.

Tread Power for Separator.

I have a separator, and I would like to run it with dog power. Could you give me any information on how to attach the power to the separator? I was thinking I could run it with a belt, but I was told the crank was bolted to the wheel of the power.

R. R.

Ans.—We do not see how you could attach the crank of the separator to the wheel of the power and get sufficient speed with a dog to run the separator to requirements. A correspondent describing such an attachment in "The Farmer's Advocate" some time ago, said that they used the bull to do the separating, and until he was two years of age, used a horse. You could run it with a shaft and pulleys, or belts and pulleys, and according to our correspondent, the pulley on the shaft must be a certain size, according to the weight of the animal used. If it is a separator of a large capacity, we doubt whether a dog could develop power enough to successfully operate it.

Milk Inspection.


In the locality where I live, the farmers are mostly engaged in dairying. We are visited from time to time by dairy inspectors from Toronto, and as several herds have contagious abortion, and my herd has always been free from that trouble, can I compel the inspector to disinfect his boots and clothing before entering my stable? How can the farmer be protected from the inspector carrying this trouble from one herd to another? Why must I answer all the inspector's questions, such as how many cows are you milking now? How many cans of cream do you ship per week, etc.?

YOUNG FARMER.

Ans.—We do not think the farmer requires protection from good inspectors. They invariably disinfect boots and rubbers before going into another stable after having visited a stable where a contagious disease is prevalent. The inspector is doubly careful not to spread contagion. You really do not have to answer all questions, but it would be better for you, likely, if you showed the inspector a certain amount of courtesy, and answered his questions readily. These questions are not unreasonable, and there should be no hesitancy in answering.


Planet Jr.

No. 16 Planet Jr. Single Wheel Hoe, Cultivator, Rake and Plow



The highest type of Single Wheel Hoe made. It is light, handy, and adapted to almost every garden use. Has leaf guard for close work, and a durable steel frame. Light enough for a woman to use.


No. 11 Planet Jr. Double Wheel Hoe, Cultivator, Plow and Rake



The greatest cultivating tool in the world for the grower of garden crops from drilled seeds. The plow opens furrows for manure, seed, etc., and can be reversed for covering. Crops can be worked both sides at once until 20 inches high. Steel frame. Just the tool for the onion-grower.

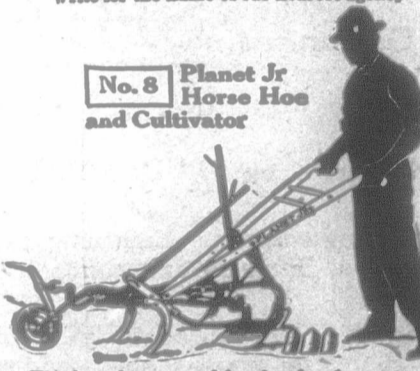
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Box 1108F Philadelphia
Write for the name of our nearest agency

No. 25 Planet Jr. Combined Hill and Drill Seeder, Double Wheel Hoe, Cultivator and Plow




A capital implement for large-scale gardening especially. It has automatic feed-stopper, seed index, and complete cultivating attachments. The hoes are of a special patented form which run close to row without danger to leaves or roots. Steel frame. Two acres a day can be easily worked with this tool.

No. 8 Planet Jr. Horse Hoe and Cultivator



The best-known cultivating implement made. It is so strongly built that it withstands incredible strain, yet it is light and easy to handle. Has new steel wheel which prevents clogging with stones and other trash. Cultivates to any depth and adjusts to any width. Opens and closes furrow, and hoes right up to plants without danger of injuring them.

Fire-Fly Garden Plow



Especially useful to owners of small gardens, and to chicken-raisers for plowing up scratching yards. Its light weight makes it easy for women or children to use also. Enables the owner of a family garden to do all the work in spare minutes.

TWEED DAIRY APPLIANCES

Your greatest profit lies in keeping pace with the times

Fig. 1



The "TWEED" Steel Cheese Vat, Fig. 1—Of heavy galvanized steel, perfectly rivetted and soldered. Our patent draining system insures perfect draining to the last drop. Water and steamproof asbestos lining, a perfect heat holding device. If not as presented when they reach your station, send back at our expense.

Fig. 2




COPPER STEEL WHEY TANK, Fig. 2—Practically acid proof. Sulphuric acid test shows ordinary boiler plate dissolves 120 times quicker than the copper steel plate we use. Guaranteed very durable. Price so reasonable no factory can afford to do without. Very sanitary and easily cleaned.

Fig. 3



The "LEAL" Milk Agitator, Fig. 3—Does away with costly equipment. Run at any speed desired. Works smoothly and efficiently on steam connected from boiler, without attention. No engine, shafting, belting or pulleys required. Each agitator fitted with engine of its own.

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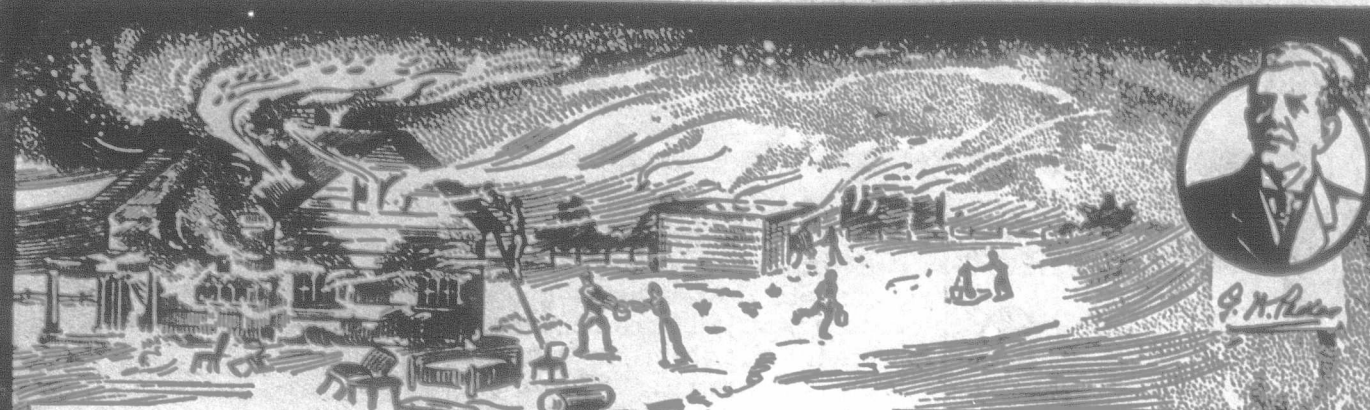
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Please mention "The Farmer's Advocate."



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"GEORGE" Steel SHINGLE
Galvanized

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Reduce your fire risks to a minimum, by "PEDLARIZING" your Barns and other buildings.

No danger from sparks or threshing engines. Lightning cannot effect any building equipped with Pedlar's Metal Shingles and connected to ground by conductor or wires.

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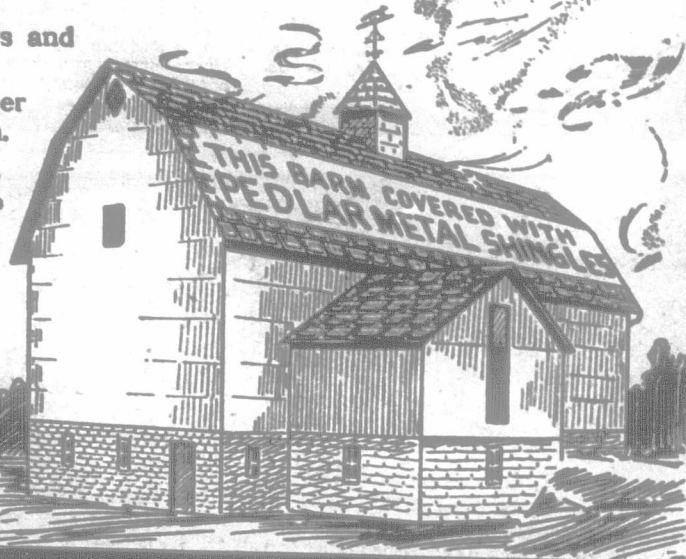
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High Quality Builds Big Telephone Business

THIS business was organized to manufacture telephone equipment for independent local and municipal systems. Right from the start our equipment made records for efficiency. It did not take long for our goods to acquire a reputation for quality and reliability. As a result, our business has grown by leaps and bounds.

It is a well-known fact that we have been securing over 80 per cent. of the new telephone business in Ontario. The business, too, has been secured with less effort than business secured by competitors. The satisfaction our telephones and equipment have given under all conditions has paved the way for easy business getting.

To judge how fast our business is growing, you'll remember we stated in a previous announcement that our business last year doubled that of the year before. Well, this year the first two months' sales total more than twice the 1912 sales for the same period. More and more is it being recognized by those in the local telephone business that we are the legitimate people to deal with. There are those in the telephone business who are interested in depreciating the success of the independent telephone movement and the development of municipal systems. On the other hand, our business lies wholly and directly with the independent telephone systems,

and it is to our own best interests to look after those systems well, as on their success depends the growth of our business.

If you would like a list of the large independent telephone systems built in Ontario during the last twelve months, just drop us a line. We would be glad to send you a list of the systems, with the make of the telephones they are using. In fact, if you'll name over the large independent systems built during the last year in Western, Northern and Eastern Ontario you'll find that nine out of every ten are using our telephone and equipment.

You are absolutely safe in equipping your system with our telephones. We guarantee them as regards material and workmanship. In fact, we guarantee all our equipment and materials. And in addition, we offer to send our telephones for **Free Trial**, so you can test and compare them with others right on your own lines before risking a dollar.

Ask for our No. 3 Bulletin—containing the latest information about building telephone lines. Also No. 4, describing our magneto telephones, is free on request.

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Questions and Answers. Miscellaneous.

Free Martins Breeding.

I have a pair of twin calves, one heifer and one bull. Have been told that a twin heifer would not breed. Inform me, through your valuable paper, whether it is true or not.

J. T.

Ans.—A heifer born a twin with a bull, seldom shows periods of oestrus, and thus does not breed. The bull is all right. In some cases the heifer has also been known to breed, but this is not the general rule. If the heifer shows heat, she will likely breed.

Losing Feathers.

Will you tell me the cause and cure of my White Wyandotte hens moulting around the heads. They are in a good house, and regularly fed. I give soft feed, warm, for breakfast, and for dinner green feed, with grain for supper.

READER.

Ans.—It is likely the hens are feather pulling. This is probably due to the lack of meat food, or it may be that the hens are lousy. A correspondent has advised the feeding of sulphur to correct this.

A Pernicious Habit.

I have lost quite a number of my chickens through them pecking each other's combs and then bleeding to death. Both hens and roosters are alike. It seems a kind of mania. They get plenty of water to drink, a mash once a day, and hard grain twice. They have a well-ventilated pen, and plenty of barley straw to scratch in. They look healthy and are laying fairly well. Can you give me any information as to why they peck each other?

C. S.

Ans.—This trouble is caused originally by a depraved condition, due perhaps to lack of animal food, until it becomes a pernicious habit. While the fowls' combs are sore, their companions will continue to peck them. You will have to separate the injured birds, and if there are only a few offenders, they may as well be done away with. Feed some bones and meat scraps. A ration containing sulphur has its advocates, and it is advisable to give them a large range.

Silo and Certificate of Service.

Would you please advise me on the following questions: My farm consists of 70 acres; my stock of cattle from fifteen to twenty head.

1. What size silo would you advise me to build?

2. There is a bank at back of my barn. Would it be advisable to lower the silo to the level of feed-room floor by building stone or cement to a little above the level of the ground, and continuing from that up with staves, or would you build it all above ground?

3. I bought a pure-bred Yorkshire sow last spring. She was sold to me to be safe in pig. I wish to register some of the young sows. I have written several times to the man I bought from for a certificate of service. The last time I wrote I enclosed a form furnished by the National Records for that purpose, also stamp for return postage. I cannot register the young sows without it. Am I entitled to certificate of service? If so, what steps should I take to get it?

E. A. F.

Ans.—1. A silo 14 feet by 24 feet, or one 12 feet by 32 feet 9 inches, will hold 67 tons of silage. Enough to feed 19 head of cattle for six months at 40 lbs. per day. This should be filled from 4.7 acres of corn, with an average of 15 tons per acre. We advise a silo, in your case, 12 feet in diameter and 33 feet to 40 feet high.

2. Lower the silo level with the feed-room, but put a tile drain around the silo, and one leading from underneath. The part in the ground should be cement, and care should be taken with the point of juncture if you continue on with stones.

3. Reliable live-stock men seldom conduct their business in this manner. You are undoubtedly entitled to the certificate of service, and if you cannot come to an understanding with the party from whom you purchased this animal, you will have to leave it in the hands of a solicitor. You are entitled to the certificate.

Dr. Maria Montessori



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Use Panshine to thoroughly clean and shine all the cans, pails, shelves, etc. Leaves everything sweet-smelling and sanitary. Cleanliness pays—especially in the dairy. Use



PANSHINE

It's a pure, white, clean powder—doesn't scratch—can't harm the hands—odorless.

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P-3

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Safety Hoist

enables one man to change wagon boxes, stretch fence and handle heavy loads easily. It elevates, lowers, locks and unlocks with one rope only. Holds load at any point. Heavier the load—tighter the grip. No. 3—Capacity, one ton, 955 One of a dozen sizes, 400 pounds to 4 tons.

See your hardware dealer or write today for FREE BOOK. (35) HALL MFG. CO. 955 Cedar Street Monticello, Iowa

The only hoist with adjustable safety lock for various sizes of rope. Positively holds load, even if rope is worn, wet or greasy.

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EDDY'S WARES

Grandmother always used EDDY'S MATCHES. Mother knew their excellence and bought, also, EDDY'S FIBREWARE and proved its worth. In our time has been added EDDY'S TOILET PAPERS, sanitary and cheap, and many other articles for household use, all of the same known quality as

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You cannot do better than continue to buy from the old firm, whose slogan is

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THIS complete book, bound in lithographed covers, is YOURS for the asking. It is an elegant book—the best seed catalogue we have yet issued—and offers some most desirable Novelties in Vegetables and Flowers which can be obtained only direct from us. Many a winter's evening can be spent profitably in planning your garden, by a careful study of this book. Shall we send you a copy?

Cor. Adelaide and Jarvis Streets, TORONTO

Questions and Answers. Miscellaneous.

Will Ground Grain Lose in Feeding Value?

Will grain ground, say, three months before being fed to stock, have lost any of its feeding value? W. D. R.

Ans.—Grain ground for that length of time is liable to become heated and musty. Possibly it may not lose in actual nutrients, but its flavor may be so impaired as to materially decrease its usefulness as a food.

Goose Wheat Growing.

1. What is the average yield of goose wheat per acre?

2. What is the feeding value compared with barley?

3. What is the general market price per bushel, as I have looked for market prices in three different papers, but failed to find any? Where could it be disposed of? Would it be best to have it shipped in car lots?

4. Would oats at 1c. per lb., or barley at 50c. per bushel, be more profitable than goose wheat?

5. What is the average yield of oats and barley per acre?

AN OLD SUBSCRIBER.

Ans.—1. The average yield of this variety for Ontario would likely be in the neighborhood of 20 bushels. However, on good soil, it often yields as high as 30 or 35 bushels per acre.

2. It contains a trifle more dry matter; a little more protein and carbohydrates, than does barley, per 100 lbs., and, of course, is a heavier feed, weighing 60 lbs. per bushel, as compared with 48 lbs. for barley. Pound for pound, there would likely be little difference in results, the wheat likely proving the stronger feed.

3. Goose wheat generally sells a few cents per bushel lower than other varieties on the market. It can be sold at any elevator or grain market.

4. Taking good crops a little above the average as a basis, and growing all for sale, there would likely be little difference between barley and wheat, both leading oats. Of course, goose wheat requires strong land, and it increases in value when mixed with other grains for feeding purposes.

5. Oats in Ontario average about 38 bushels per acre, and barley about 30 bushels per acre.

Duck Eggs and Farm on Shares.

1. Are duck eggs a marketable commodity? If so, can they be sold along with hen's eggs?

2. What are the usual terms and conditions on which a dairy farm and orchard are worked on shares? C. M. L.

Ans.—1. There is a small market for duck eggs, and they command a price slightly in advance of hen's eggs. The demand is limited, and it is not advisable to mix them with hen's eggs.

2. Ordinarily, farming on shares, the owner of the farm pays 65 per cent. of the expenses, namely, taxes, repairs, etc. The farmer who works the place, hires the help, does the work, and meets 35 per cent. of the expenses, receiving 35 per cent. of the net profits and the owner of the farm 65 per cent. This is for general farming, but on a dairy farm there are so many factors entering into the transaction that it is hard to get an estimate that would apply to all conditions. If the cows are ordinary producers, of ordinary value, the same allotment might be applicable, but if they were high producers and valuable pure-bred cattle, the owner is incurring more risk and should be reimbursed to a larger extent. Working orchards on shares is seldom done, the customary procedure being to rent them for so much an acre or so much a tree. In some cases as much as 50c. per tree is paid, but this depends upon the condition the trees are in, and the shape of the land and orchard generally. When all the work is done by the man on the farm, 35 per cent. of the profits would not reimburse him sufficiently, and we would recommend that in the case of the orchard, that he rent it outright for so much a year, taking a lease on it for three or five years, and receive the profits from the same according to his efforts expended thereon.



460 BUSHELS POTATOES Per Acre

Grown by T. & W. Roach, Victoria County, N.B., with an application of 2,000-lbs. per acre of

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New, improved mail, passenger and freight steamship service from

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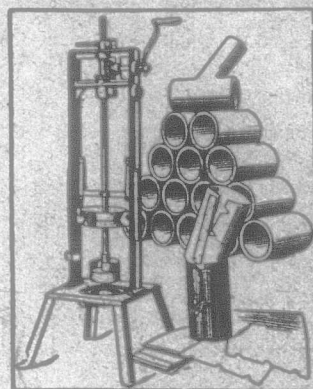
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Please mention "The Farmer's Advocate."

20 Crops of Potatoes Av. 322 Bush. per Acre

\$500 AWARDED
BOWKER PRIZE WINNERS

Northern Zone (Maine, N. H., Vt.)		Total in Bushels	
\$100 1st Prize	A. B. Cobb, Lee, Me.	502.6	690
50 2nd "	O. B. Keene, Liberty, Me.	418.6	660
30 3rd "	J. L. Demeritt, Sangerville, Me.	405.5	615
25 4th "	Frank J. Hersey, Dexter, Me.	465.8	607
20 5th "	D. L. Brett, Oxford, Me.	400.	525
15 6th "	W. S. Hodges, Phillips, Me.	311.1	523
10 7th "	R. J. Martin, Rochester, Vt.	331.8	520
Gratuity.	Geo. E. Burditt, Rochester, Vt.	457.8	634

Southern Zone (Mass., R. I., Conn.)		Total in Bushels	
\$100 1st Prize	A. W. Butler, Brockton, Mass.	363.1	589
50 2nd "	Jos. Howland, Taunton, Mass.	344.9	574
30 3rd "	Henry A. Wyman, Rock, Mass.	342.5	558
25 4th "	Edwin L. Lewis, Taunton, Mass.	260.2	515
20 5th "	W. C. Endicott, Danvers, Mass.	217.7	503
15 6th "	Luther Holton, N. Franklin, Ct.	183.8	450
10 7th "	Dudley P. Rogers, Danvers, Mass.	185.7	430

Send us your name for complete and instructive statement concerning the results of the contest and how these great yields of potatoes were obtained. No other fertilizer than the Stockbridge Potato Manure was used.

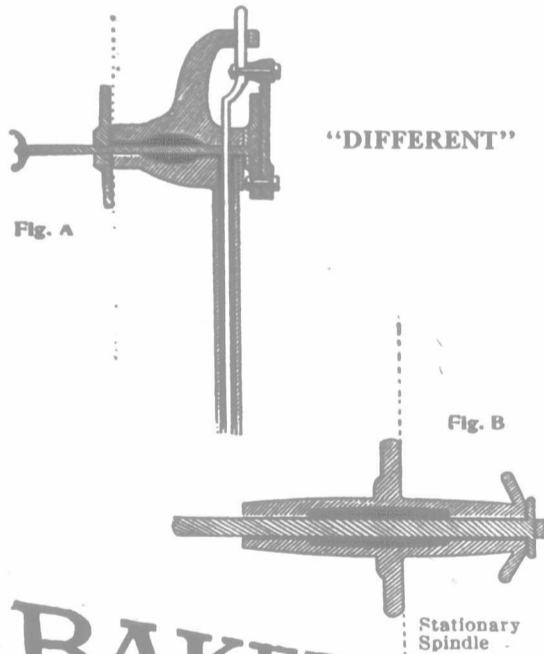
BOWKER FERTILIZER COMPANY
43 Chatham Street, Boston, Mass.

WINDMILLS

Fig. "A" shows wearing out of line of old style shaft. Fig. "B" shows uniform wearing whole length of bearing when stationary spindle is used.

Keying the wheel to a shaft and turning the shaft in a boxing has given place to our method of using a stationary spindle, the wheel to revolve around the spindle, as shown at Fig. B.

The advantages gained can be readily seen. The weight of wheel is equally distributed on spindle, the wear is uniform the entire length of spindle. The wheel will never dip towards the tower. No part can be thrown out of line, while with other mills the weight and leverage of the wheel keyed to the end of shaft will wear the lower side of the out boxing and the upper side of the inside boxing. The wheel and engine will become out of line, requiring new parts. The use of the stationary spindle brings the wheel close to the tower which greatly lessens wear. Supporting the weight of the wheel directly over hub reduces friction, and substantiates our claim that it is the easiest running mill in the world.



The Weller-Aller Co.
WINDSOR - ONT.

BAKER

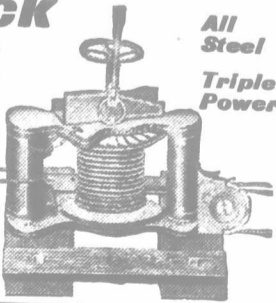
Pull Big Stumps Quick and Easy \$1280 from 40 acres the first year stumps are out.

Pulls an acre a day. It doubles land values. Enables you to grow crops instead of paying taxes on land that yields nothing.



HERCULES Stump Puller

More power than a tractor. 60 per cent lighter, 50 per cent stronger than cast iron puller. 30 days' free trial. 3-year guarantee to replace, free, all castings that break from any cause whatever. Double safety ratchets insure safety to men and team. Accurate turning means light draft. Mail postal for free book showing photos and letters from owners. Tells how to turn stump land into big money. Special introductory price proposition will interest you. Write now. HERCULES MFG. CO., 1196-22nd St. Centerville, Iowa



All Steel Triple Power

From Michigan

Questions and Answers. Miscellaneous.

Right to Wood.

A sells a farm to B. A has a quantity of wood cut, and also cedar ties at date of sale. Is A entitled to draw this material off the place when he moves?

Ontario.

Ans.—Yes.

Quitting Work

The foreman of — mills here sent a man for me at 8 a. m. on the 5th inst. I went to the mill and started to work about 8.30 a. m. Having a better job offered, I quit. Worked there only on the day in question. Am I entitled to pay for the time employed? They refuse to pay me.

Ontario.

Ans.—We think not.

Disputing Liability on Notes.

In June, 1907, two men came around selling shares in "Company E," and secured several shareholders by promising to start a branch in this district, but failed to fulfil their promise. Then they ceased doing business entirely, and sold the notes to a man named "A," living about eleven miles from there, who was the brother of the President of "Company E." A's name was down as being one of the directors. Now A swears he had nothing to do with the Company. Does that clear A? In a short time there is going to be a law suit. Can the defendants compel them to have the law suit in their home county where note was given, or do they have to go to the other county? The judge, who I think is inclined to be partial, declares it has to be held in A's county. These notes became due December 1st, 1907, which was proved by the books, but apparently someone has changed them, extending the time one month. What proceedings can defendants take against this director that holds these notes? Can A compel the shareholders to pay the notes when they received no value?

AN ENQUIRER.

Ans.—We cannot answer any of the questions without further information as to the facts. There are, indeed, many circumstances to be considered, respecting which the statement of case submitted gives no information whatever. The shareholders in question ought to combine forces and instruct a solicitor to protect their interests; and incidentally they ought to give him the fullest information possible.

Wire Cable, Seeding Down and Maple for Shade.

1. Would a wire cable work satisfactorily as a hay rope in a barn. Was thinking of putting in a cable instead of rope, but was not sure whether it would be pliable enough. Would it be likely to twist or become kinked? What size would do?

2. I have a cultivator with grain and grass seeder attached, which I use to sow grain, but have never used the grass seeder. Do you think the grass seed would be covered too deeply by the cultivator teeth by this method? Also, if ground is in good condition, would you advise rolling or simply harrowing?

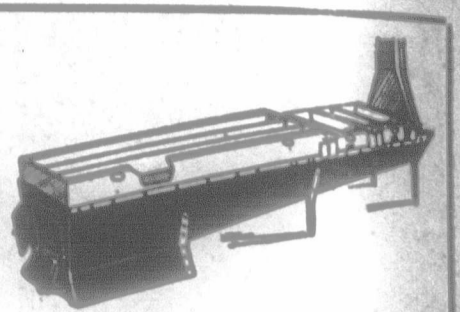
3. Would young maple trees from a hard-maple bush be all right to plant along roadways and lanes, or would they grow too tall and coarse to make good shade trees, as well as ornamental?

N. M. A.

Ans.—1. We do not think it would work. Considerable difficulty often arises in keeping a rope from kinking. If you were winding the cable over a windlass it would keep straight, but where it is necessary to draw it out at some length with horses, turn them around and bring them back to the barn each time, it would be impossible to handle it.

2. Where cultivating is done deeply, there is a danger of getting the grass seeds too deeply covered. Can you not turn the spouts fairly well back and harrow afterwards? If you could do so, it would be preferable to sow the seed ahead of a grain drill, but if you cannot do this, sow the seed as well back as possible behind the cultivator teeth and harrow afterwards. Roll and harrow afterwards.

3. Of the deciduous trees, there are few to be preferred to hard maple. They are excellent for such a purpose.



Be Wise This Year and Install a "Champion" IN YOUR SUGAR BUSH

You've gone on long enough using old-fashioned, expensive methods in your maple grove. It's time for you to sit up and take notice of the fact that you can increase your profits from this part of your business to a greater extent than you ever dreamt of.

The "CHAMPION" Evaporator is the greatest time- and money-saver a man can put in his sugar cabin.

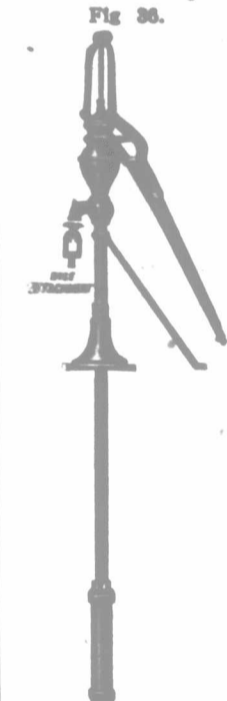
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OUR LATEST Save-The-Horse BOOK is our 18 Years' Discoveries—Treating Every Kind of Ringbone—Thoropin—SPAVIN—and ALL—Shoulder, Knee, Ankle, Hoof and Tendon Disease—Tells How to Test for Spavin; how to locate and treat 58 forms of LAMENESS—Illustrated.

but write and we will send you BOOK—Sample Contract and Advice—ALL FREE to (Horse Owners and Managers—only). Address:

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Also Binghamton, N. Y. Drugists everywhere sell Save-the-Horse WITH CONTRACT, or we send by Parcel Post or Express paid.

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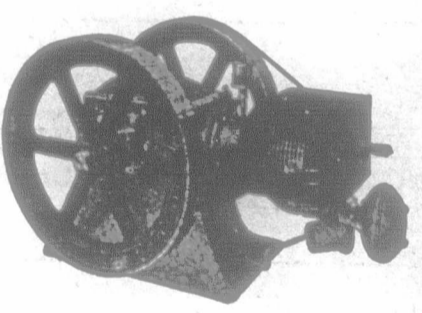


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THE "New-Way"

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for cement mixers, water systems,
etc. The best all around
power for the farm.



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always.

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Pay every two weeks.

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BERLIN, CANADA

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well matched pairs, have been in Canada over a year and in fine condition. Choicely bred, a high-
class quality lot.
L. J. C. BULL, BRAMPTON, ONT.

Imported CLYDESDALE Stallions
Yes, they are here, our 1914 importation, and if you want a big young stallion with
the best legs, ankles, feet, action, breeding and character you ever saw at a price a poor
man can pay, come and see our lot.
BARBER BROS.
Gatineau Pt., Quebec.

Questions and Answers.
Veterinary.

Unthrifty Pigs.
Pigs five weeks old are kept in box stall with cement floor and a wooden platform. They are fed oatmeal, milk and mangels. They do not eat well, and have humped backs. A. H.

Ans.—Give each one ounce Epsom salts. Feed a little shorts with the milk and oatmeal, and let them out every day for exercise. The principle trouble is want of exercise. V.

Wooden Tongue.
Heifer commenced to fail last summer, and has failed gradually ever since. An examination of the mouth revealed the tongue hard and thick. She salivates a great deal, and cannot eat well. D. W.

Ans.—This is a form of actinomycosis called "wooden tongue." Give her iodide of potassium three times daily. Commence with one-dram doses, and increase the dose by one-half dram daily until she refuses food and water, tears run from eyes, and the skin becomes scurfy. When any of these symptoms become well marked, cease giving the drug. Repeat treatment if necessary in two months. A recovery is doubtful. V.

Warts—Lameness.
1. Four of my yearlings have warts. They start as small tits and grow to the size of hen's eggs, and are rough and in sections. What causes them, and what will cure them?
2. Horse has a swelling on back of fore leg, just above the fetlock. He has had this a year, and it causes lameness, which is getting worse. C. A. K.

Ans.—1. We cannot tell what causes warts. They appear without apparent cause. The daily application of butter of antimony, or other caustic, will eventually remove them, but in cases where they are as large as you describe, the better treatment is to dissect them off and dress the raw surfaces twice daily until healed with a five-per-cent. solution of carbolic acid.
2. This is probably a bursal enlargement, and very hard to treat successfully. Repeated blistering should give fair results. Get a blister made of 2 drams each of biniodide of mercury and cantharides, mixed with 2 ounces vaseline. Clip the hair off. Tie so that he cannot bite the part. Rub well with the blister once daily for two days. On the third day apply sweet oil and turn loose in a box stall. Oil every day, and as soon as the scale comes off, tie up and blister again, and after this blister every four weeks all winter. You do not give any particulars about the nature of the swelling, hence my diagnosis may not be correct. I think it would be wise to call your veterinarian in and have him examine the horse, and operate upon the colts. V.

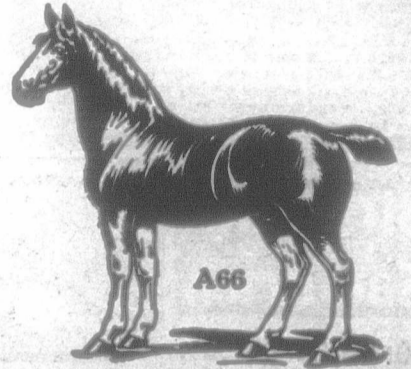
Miscellaneous.

Chronic Coughs.
1. I bought two cows from a breeder and paid him his price, which was not a small one. About one year ago, one of them was affected with a cough.
2. Two-year-old Leicester ewe has what appears to be a chronic cough. Comes on about five or six times in a day. The spells are so severe that she will bleat. She lost her lamb before time last spring. What could I give her for relief? W. F. R.

Ans.—1. The only symptoms given are that you bought the cows and paid a good price for them. There are too many kinds of coughs, and too many associated conditions with each, which you have not stated, to allow us to advise. Have her tested for tuberculosis.
2. Symptoms very meagre. Probably sore throat. Mix oil of turpentine, one ounce; strong aqua ammonia, one ounce; linseed oil, six ounces. Shake this before using, and rub some well into the throat twice daily for two or three days. Give internally: Chlorate of potash, four drams; tincture of iron, six drams; water, eight ounces. Give one tablespoonful three times daily, but remove the cause of the trouble by putting the patient in dry quarters, free from drafts.

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Sound, Like This**

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It describes all. And with the book we want to send you an expert's diagnosis of your horse's lameness. All this is absolutely free. Simply mark the spot where swelling or lameness occurs on picture of horse, clip out and send to us telling how it affects the gait, how long animal has been lame and its age.
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Saved Him**

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LAMENESS**


from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar trouble and gets horse going sound. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. \$2.00 a bottle delivered. Horse Book 9 K free.
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Shorthorns and Swine—Have some choice young bulls for sale; also cows and heifers of show material, some with calves at foot. Also choice Yorkshire sows.
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GOMBAULT'S
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The safest, Best BLISTER ever used. Takes the place of all treatments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTIC OR FILING. 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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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 open; 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 a few weeks. Ask your doctor or write for booklet.
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10 Young Holstein Bulls
1 Stallion (Imp.)

In-dam, others by Baron's Pride, bulls got by King Fayne Segis Clothilde, a grandson of King Segis and Grace Fayne 2nd's Homestead, 35-lbs. butter in 7 days (world's record), and 2 other sire's dams in R.O.P. milking up to 8-lbs. per day, and 1000-lbs. in a year. Write, or better come and see them (a few Ponies).
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COTTON SEED MEAL
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We now have our Toronto and Guelph winners in our stables; consisting of stallions from one year to six, and fillies from one to five years; prices and quality hard to beat. Thos. McMichael & Son, Seaforth, Ont. Bell 'Phone Connection

DR. BELL'S Veterinary Medical Wonder. 10,000 \$1.00 bottles FREE to horsemen who will give The Wonder a fair trial. Guaranteed to cure Inflammation, Colic, Coughs, Colds, Distemper, Fevers, etc. Agents wanted.
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For Sale Two Imp. Clydesdale Stallions.
Silver Strand, 9-year-old, and Bailie Boy 3-year-old, both good color and first class animals and must be sold as I have sold my farm and going out of business. Address: James Paton, Proton Station, R. M. D. No. 1, Ont.

Please mention "The Farmer's Advocate."

Questions and Answers.
Miscellaneous.

Lightning Rods.
In an answer to J. E. C., in our issue of January 22nd, re lightning rods, it was stated that it was immaterial whether the cable is grounded at the corners or ends of the barn, whereas it should have read that it is immaterial whether the cable runs along the roof or not, but it should be grounded at two diagonal corners. This is for a metal roof. For a shingle roof, the cable should run along the peak and be grounded at the corners.

Pea Weevil.
We saved seed from garden peas grown last summer. The peas were fine, and perfectly free from worms. The seed was placed in paper sacks as soon as shelled. Early in December the peas were found to be swarmed with little, black bugs, which seemed to germinate in the pea. They were picked over, and the good ones exposed to the fumes of formaldehyde. The bugs seem destroyed, but is it safe to use seeds? Is there any known remedy for unclean peas?
E. P.

Ans.—These are quite likely the adult form of the pea weevil, which were concealed in the pea in the form of a small worm when you gathered the seed. You have no doubt killed the insects with the fumes of formaldehyde, and they are safe to plant, unless you exposed them long enough to kill the germ. Carbon bisulphide, one ounce for 100 lbs. of seed, is the customary treatment. The fumes exterminate the weevil similar to the formaldehyde. A co-operative and universal treatment of the seed in the community is the only way to meet the pea weevil successfully.

Tuberculosis in Fowls.
Our hens have been dying this fall and winter, one every two or three weeks. They are real fat, but droop around for some time, get pale in the comb, have yellowish droppings, and after death, on being examined, their liver is found to be almost all decomposed. Killed a sick bird to-day, and the liver was all in little soft pieces. Would you kindly inform me what this disease may be, and how best to get rid of it, or if anything can be given in the feed or water to cure it?
G. P. S.

Ans.—Your hens are quite likely dying from tuberculosis. The symptoms are plainly of that disease, with the exception that they usually "go light" or become emaciated before dying, and oftentimes they become lame. These must be extreme cases, for the liver is usually found studded with little, white tubercles. There is no remedy for a diseased bird. Prevention is the only expedient to insure freedom from further attacks. All diseased birds should be isolated at once, and the pens thoroughly cleaned and whitewashed with a mixture containing some carbolic acid. A very large percentage of the fowls of the country are now subjected to this disease, and prevention is the only means of forestalling future fatality in fowls.

Cement Blocks for Wall.

1. We intend building a barn this coming summer. Do you think a cement-block wall, eight inches thick, sufficient under a barn 40 x 60?
2. What length of posts is generally used on an eight-foot wall and a hip roof?
3. Is a hip roof as strong as the ordinary pitch roof?
4. Do you like a hip roof?
5. How many cement blocks are made from a yard of gravel?
6. What mixture of gravel and cement is generally used?
7. What kind of wall do you think best to put under a barn?
N. M.

Ans.—1. Eight inches would be a light wall. A ten- or twelve-inch wall would be better.
2. Sixteen to eighteen feet.
3. Yes. Properly built.
4. Yes. It makes a roomier building.
5. Blocks 32 inches by 9 inches by 12 inches, about 12 or 13, 8-inch blocks, about 20.
6. If good material is used, one to five. If material is poorer, one to four.
7. We would prefer a stop-wall cement, or a stone foundation, to the blocks. For a dry wall, a wooden one is best.

Percheron Stallions
The premier show herd of Canada. All ages, blacks and greys, weights from 1800 to 2150 lbs. Write for the greatest illustrated horse catalogue in Canada
HODGKINSON & TISDALE, BEAVERTON, ONT.
G.T.R. and C.N.R. Railroads, Bell 'phone, No. 18.



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IMPORTING BARN
J. B. Hogate, Proprietor
IMPORTER OF
Percheron Stallions and Mares

Ages from one year old to six years old. Blacks and greys. Great, big, thick ones. Come and see what I can show you and get prices before you buy. That will be to your interest. And if I cannot sell you a better stallion or mare for less money than anyone in the business I do not want you to do business with me. Weston is three miles from Toronto, and can be reached by C.P.R. and G.T.R. Also by Dundas & Weston electric cars every twenty minutes. For further particulars, write
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WE have again handed at our stables a large and choice collection of Clyde Stallions and Fillies of strictly high-class calibre. We never had a lot that measured up to the standard of this lot, big, flashy quality; close, straight action, and bred in the purple. We can supply winners in any company. Write us.
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Belgian, Hackney and French Coach Stallions

We have a better bunch of stallions and mares in our barns at present than ever before, and are in a position to sell cheaper than any other man in the business. We raise our own feed, do our own buying and selling. No commission agents to share profits with. We have nice, big, stylish blacks and greys, with right kind of bone and feet and good, straight, true action. Every stallion guaranteed a foal getter. Every mare a breeder. List of prizes won: Sherbrooke and Ottawa on 16 head, 15 firsts, 6 seconds, 4 thirds, 3 fourths and 6 championships. This speaks stronger than words as to the quality of my stock.
J. E. ARNOLD, Grenville, Que.
Grenville is midway between Montreal and Ottawa C.P.R. and C.N.R. Three trains run daily from each of these cities.

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To the Clydesdale men of Canada we wish to say our 1913 importation is home, and we have some of the best show material in this country. More size, more style; more quality, more character and better breeding than ever before, in both stallions and fillies.
JOHN A. BOAG & SON, Queenstown, Ont.
Electric cars every hour.

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QUALITY
My fall importation of Clydesdale Stallions and Fillies are now in my stables; there never was a better bred lot imported, and their standard of character and quality is the highest and my price the lowest.
G. A. BRODIE, NEWMARKET, ONT. L.-D. Bell 'Phone

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I have just landed a big importation of Clydesdales and Percherons, if you want a big ton stallion with the best of quality, come and see me, I can show you the best lot of stallions you ever saw.
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If you want Stallions, Fillies or Foals of the above breeds, personally selected from A. and W. Montgomery's Clydesdale Stud and the Bramhope Shire Stud, Cheshire, and home-bred of the most fashionable strain. See and select from the large stock now offered. Prices and terms will please. **D. McEachran, Ormsby Grange, Ormstown.**

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The Season is advancing, select your horse now. I can show you Clydesdale Stallions with size, quality, and breeding, second to none in Canada, for about half the usual price, and the same in Percherons.
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For this season's trade we have Clyde Stallions and Fillies that were up to championship honors in Scotland, and the same honors in Canada. Breeding characters, quality and action unsurpassed. Visit our barns if you want the best.
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Stallions, prize winners of highest quality, character and breeding; Fillies, prize winners in foal, also stock bull, Crown Imperial 86997, a high class bull.
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We have for sale: a few two-year-old heifers by imported bulls and out of imp. cows bred to good bulls. We also have four good Clydesdale fillies, two 2-year-olds and two yearlings. Also two stallion foals. Five of them out of Lord Charming mares by King Seal, imp. Address
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When selecting a herd header or foundation stock, come to the fountain head; for years my herd have proved their title as the champion herd of Canada. I have always both sexes for sale.
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Dr. Maria Montessori



I'll Put Your Stock in a Thriving Condition—

Make the Ailing Ones Healthy and Expel the Worms

GILBERT HESS,
Doctor of Veterinary Science
Doctor of Medicine



**U. S. Dispensatory
Medical Colleges
Noted Veterinarians**

All certify the ingredients of Dr. Hess Stock Tonic to do just what I claim for them.

- Nux Vomica.* Digestive and Nerve Tonic.
- Quassia.* Digestive Tonic and Worm Expeller.
- Sulphate of Iron.* Blood Builder and Worm Expeller.
- Sulphate of Soda.* Laxative and Liver Tonic.
- Common Salt.* Appetizer and Expels Worms.
- Epsom Salts.* Laxative.
- Nitrate of Potash.* Stimulates Kidneys.
- Charcoal.* Prevents Noxious Gases.
- Fenugreek.* Tonic and Aromatic.

The above is carefully compounded by Dr. Hess (M. D., D. V. S.), with just enough cereal meal to make a perfect mixture.

I URGE every farmer to see to it right now that his work horses are put in condition for the hard work of spring and summer, so that when the sun shines your horses will be rid of their old coats, full of stamina and ready for business.

And don't overlook the spring pig crop—the mortgage lifters. Start them off free from disease—free from worms.

Be sure, also, that your milk cows are thoroughly conditioned for the long, heavy milk-

ing season, and that those with calf are vigorous and fit.

Remember, your stock have been cooped up for the last few months and have been on dry feed. As corn or oats, hay and fodder do not contain the laxatives and tonics so abundantly supplied in grass, your stock are pretty apt to be out of fix. Some of your animals are liable to be constipated, rough in hair, their legs may have become stocked, or they have dropsical swellings, but the most common disease of all, especially among hogs, is worms—worms.

Dr. Hess Stock Tonic

A Splendid Conditioner—A Sure Worm Expeller

Being both a doctor of medicine and a doctor of veterinary science, I know exactly what farm stock need to get them in condition for spring.

In my left hand I hold the formula of Dr. Hess Stock Tonic—showing every ingredient, what each ingredient is for, and you will notice that the U. S. Dispensatory—one of the world's greatest authorities—certifies these ingredients to do as I claim.

Look these ingredients over—*Tonics* to improve the appetite—*Blood Builders* to enrich and tone up the blood—*Laxatives* to regulate the bowels and *Vermifuges* to expel worms. I want to emphasize one fact as forcefully as I know how: Dr. Hess Stock Tonic will not only rid your stock of worms, but will put them in a condition unfavorable to worm development.

Remember, it's the cow in the pink of condition that fills the milk pail—the horse that digests his dinner that pulls on the bit—the steer with an appetite that lays on fat, and the hog that is well and free from worms that gets to be a 200-pounder in 6 months.

So sure am I that Dr. Hess Stock Tonic will put your animals in a thriving condition, make the ailing ones healthy and expel worms, that I have authorized your dealer to supply you with enough for all your stock, and if it does not do as I claim, return the empty packages and get your money back.

Now, listen, Dr. Hess Stock Tonic is never sold by peddlers, but only by reliable dealers whom you know. I save you the peddler's salary and wagon and team expenses, as these prices prove: 25-lb. pail \$2.25; 100-lb. sack \$7.00. Smaller packages in proportion (duty paid).

Write for Free Stock Book—It's a Stunner

DR. HESS & CLARK, Ashland, Ohio

Dr. Hess Poultry Pan-a-ce-a

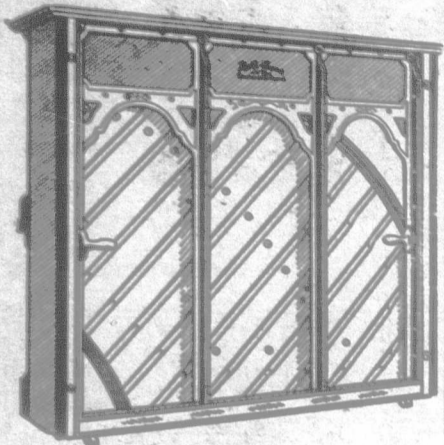
Makes Poultry Healthy Makes Hens Lay

This is a splendid tonic—it tones up the dormant egg organs and compels each hen to lay regularly. It also helps chicks grow and shortens the molting period. It is a sure preventive against Roup, Gapes and Cholera. Costs but a penny a day to feed 30 fowls. Sold on my liberal Money-Back Guarantee. 1½ lbs. 35c; 5 lbs. 85c; 25-lb. pail \$3.50 (duty paid).

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks; or, if you will keep it in the dust bath, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes, etc. Comes in handy sifting-top can. 1 lb. 95c; 3 lbs. 85c (duty paid).

This Metal Back
is one of the strong points



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FROM ANY OTHER

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A SPECIAL FORMULA FOR EVERY REQUIREMENT.

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Send for booklet showing just what Fertilizer you should use and the exact composition of it. Your copy will be sent for a post card.

The W. A. FREEMAN CO., Ltd.
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HAMILTON, ONTARIO.



IMPORTANT CHANGE IN TRAIN SERVICE

Train No. 27, now leaving Toronto 8.45 p.m. daily, arriving Sudbury 5.55 a.m. will be discontinued between Toronto and Sudbury after Saturday, January 3, 1914.

Train No. 28, now leaving Sudbury 10.45 p.m. daily, arriving Toronto, 8.00 a.m., will be discontinued between Sudbury and Toronto after Sunday, January 4, 1914.

Toronto-North Bay sleeping car will be discontinued with this service.

Toronto-Sault Ste. Marie sleeping car will be handled Toronto to Sudbury on train No. 3, leaving Toronto 10.20 p.m. daily, and Sudbury to Sault Ste. Marie on train No. 27, arriving Sault Ste. Marie, Ont., 1.12 p.m. (Eastern Time), and Sault Ste. Marie, Mich., 12.40 p.m. (Central Time). Sault Ste. Marie-Toronto sleeping car will be handled Sault Ste. Marie to Sudbury on train No. 28, leaving Sault Ste. Marie, Mich., 2.30 p.m. daily (Central Time), and Sault Ste. Marie, Ont., 3.50 p.m. (Eastern Time), and from Sudbury to Toronto on train No. 8, arriving Toronto 9.00 a.m. Full particulars from any C.P.R. Agent, or write M. G. Murphy, District Passenger Agent, Toronto.

Cotton Seed Meal
\$33.50 PER TON

F. O. B. Forest

TERMS: CASH WITH ORDER.

H. Fraleigh, Forest, Ont.

Questions and Answers.
Miscellaneous.

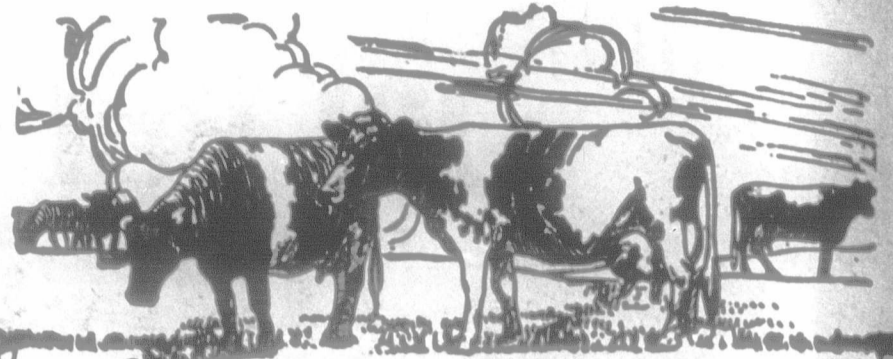
Many Things, Including Garden Crops.

1. Would you tell me how to plant celery, asparagus, parsley, cauliflower, mint cress, and watercress?
2. Can you tell me how to can vegetables and fruits?
3. If you were seeding down a permanent pasture, would you sow alone, or with oats?

E. M.

Ans.—1. Complete answers to your questions would fill a very large volume, so we are giving them in concise form. Celery is first started in flats, in a greenhouse, in a hotbed under burlap, or sown in an open plot in the field. Soil of mucky nature is best for this, and is benefited by a few coal ashes, some sand, and a little bone-meal. When sown in the open, the setting should be timed so the plants will not be stricken down with frost. They are taken up from this bed and planted about the second week in May, and if the plants are more than five inches high at the time of transplanting, it is sometimes wise to clip the tops. If soil is to be used in blanching, the distance between rows must not be less than 3½ feet, distance apart in the rows 6 inches. Crowns of asparagus one year old give very good satisfaction, and they are put into the soil all the way from six inches to twelve inches deep, eight inches deep being the preferable depth. This will be based, however, on the nature and depth of the subsoil. It is no use to put the crowns into the subsoil where the roots will not be able to get a hold. In the growing of white stalks, the distance there is all the way from two to four feet apart. In order to maintain a bed to a considerable age, it is necessary to give them considerable distance. The seeds of parsley germinate very slowly, and they are often sown under glass and transplanted once before setting out. It is customary, though, to sow the seed out of doors. The rows should be 14 inches apart, and planted 6 to 10 inches apart in the row. Parsley will thrive in any moist, fertile soil, and nitrate of soda is sometimes especially useful in securing a rapid and tender growth. Cauliflower is planted in much the same manner as cabbage, but the young plants are more tender and more likely to be injured by frost. The general practice is to plant early enough so that the heads are formed before the hot midsummer weather, but late crops of cauliflower are sometimes grown, and the plants for them are set during the latter part of June. Mint is propagated from seed, cuttings, or division of the roots. In a home garden, the seeds are often sown in beds, and the plants allowed to spread at will. Results are more satisfactory, though, by sowing in drills 12 to 18 inches apart, and thinning to 3 or 4 inches apart in the row. Watercress thrives best in shallow, running water. It may be grown in moist or shady places, but springs and brooks are preferable. Scatter the seed along the side of the brook or spring, or plant short pieces of the stems in the wet soil. They may be grown by planting under glass early in the spring, and transplanting into flats one-half inch apart, and water frequently. Garden cress may be grown on any moist, fertile soil, and the seeds should be sown thickly in shallow drills about one foot apart. Conserve the moisture by frequent tillage, and water artificially if possible. Garden cress is a spring and fall crop, and will not thrive in midsummer.

2. The main factor in canning fruit and vegetables is thorough sterilization. This is procured in two ways. First, boil the fruit or vegetable for some time. Vegetables require about three hours; fruit not so long; in some cases only ten minutes. Have the jars and caps in hot water as well. Fill the jars brimming full with the material and put on the cap, making sure they are thoroughly sterilized as well. Sometimes the fruit and vegetables are boiled in the jars in the water by putting them in a rack and putting them in cold water, allowing it to come to a boil, and continue at that temperature for some time. The important thing to remember is to have as much air excluded from the jar



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25-lb. pail, \$3.50; also in packages at 25c., 50c. and \$1.00.

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SHORTHORNS

"A PLENTY." I have a wide range for selection in Shorthorn bulls and heifers, of pure Scotch or Scotch topped, beef bred and beef type. Dairy bred and dairy type; make a point to visit my herd at Markdale, Ontario.

T. L. MERCER, MARKDALE, ONTARIO

100 SHORTHORNS IN OUR HERD 100
For sale—Imported yearling show bull; 14 calves 8 to 14 months old; cows and heifers and show material all ages. Herd headed by 3 high-class imported bulls, all 3 were prizewinners at Toronto this year.

Farm ¼ mile from Burlington Junction. **MITCHELL BROS., Burlington, Ont.**

Shorthorns I have ten young Shorthorn bulls, some fit for service now. Part of them are bred, and made so that they are fit to head the best herds in any country, some of them are of the thick, straight, good feeding kind, that will produce money-making cattle; some of them are bred from the best-milking Shorthorns, and the prices of all are moderate. I have Shropshire and Cotswold rams and ewes of all valuable ages. Write for what you want. I can suit you in quality and in price. Ask for Bull Catalogue.

ROBERT MILLER, STOUFFVILLE, ONT.

Glenallan Shorthorns We have some of the best young bulls we ever bred, Scotch or Beoth breeding, low thick mellow fellows of high quality, also some heifers. Glenallan Farm, Allandale, Ontario.

R. MOORE, Manager.

SHORTHORNS AND CLYDESDALES
5 Bulls of serviceable age, choice quality, some of them herd headers, sired by His Grace (imp.) = 69740 = and a number of cows and heifers. One stallion rising 3-year-old. A big good quality horse also four choice fillies, all from imported stock.

A. B. & T. W. DOUGLAS, L. D. Phone, STRATHROY, ONT.

SHORTHORNS Our present offering consists of Nonparell Lord = 87184 = Dam Imp. Dalmeny Nonparell 6th. 7 young bulls from 6 to 12 months old. 15 cows and heifers of choicest quality and breeding.

A. J. HOWDEN & CO., COLUMBUS, ONTARIO
Long-distance phone.

SHORTHORN BULLS FOR SALE
8 head from 10 to 18 months, bred from cows which are from imported dams and sired by choicely bred bulls, prices are not high as I need the space for stabling cattle. Shropshire and Cotswold ewes bred to imported rams.

BLAIRGOWRIE FARM, JOHN MILLER, Jr., ASHBURN, ONT.

Springhurst Shorthorns Four of the first-prize Shorthorns at the late Guelph Show, including the champion and grand champion fat heifer, were all sired by bulls of my breeding. I have now for sale ten young herd headers of this champion-producing quality. **HARRY SMITH, HAY P. O., ONT.**
Exeter Station. Long-distance Telephone.

Salem Shorthorns—As ever in the front rank. Special offering: Ten young bulls, quality and price to suit any buyer.

J. A. WATT, Elora, Ont.

Dr. Maria Montessori

Heaves
AND HOW TO CURE
A Standard treatment with years of successful back of it to guarantee results in
Fleming's Tonic Heave Remedy
Use it on any case—no matter what else has been tried—and if three horses fail to recover, we will refund full amount paid. Further details in Fleming's Vest Pocket Veterinary Advisor
Write us for a Free Copy of Best Ever Used.
Dear Sirs—Enclosed find \$1.00 for 1 package of Fleming's Tonic Heave Remedy. I used a package last year and completely cured a case of Heaves of some 3 years standing.
H. B. BURKHOLDER, Lillooet, B.C.
Per Box \$1.00, 5 for \$4.50
FLEMING BROS., Chemists
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DILLON'S LITTER CARRIER
R. DILLON & SON OSHAWA, ONTARIO.

Aberdeen-Angus Bulls & Heifers.
In both young bulls and heifers we can supply first, and second prize winners, nice thick good ones Mayflowers and Fair Ladies.
Geo. Davis & Sons
R. R. No. 2, Erin, Alton Sta.

EVERGREEN AVENUE STOCK FARM
SHORTHORNS. One Imp. Roan Lady bull for sale or exchange. Scottish Prince—60890—(83372) got by Stytton Choice (84822) he by Collynie Champion (78908) Calved 10th of April, 1908, quiet and reliable. Also 1 good bull calf 12 months old. Also 1 3-year-old registered Clydesdale stallion.
GEO. R. A. MILLER,
Sunderland, R. R. No. Ontario Co., Ont.

Glengow Shorthorns
Five of the best bull calves ever in the herd, ranging from 9 months to 15 months. A "Kilblean Beauty" calf, a show proposition. A number of choice heifers, all ages.
Write for prices.
WM. SMITH, Columbus, Ontario

Shorthorns
Fourteen good young bulls, from 6 to 12 months old, and a number of females. Would appreciate your enquiry for same.
H. CARGILL & SON, Cargill, Ontario

"OAKLAND"
47 SHORTHORNS
Bulls and females of No. 1 quality. Present offering is three grand bulls, 11, 15 and 20 months respectively. Also a few females of milk strain. "Visitors say they find things as represented."
JNO. ELDER & SON, HENSALL, ONTARIO

Spring Valley Shorthorns
A few of the best young bull prospects we ever had. They will please you. Will sell females too. Visit the herd; we think we can suit you. Particulars on application
KYLE BROS.,
R. R. No. 1, Drumbo, Ont. Telephone, Ayr

Shorthorns For Sale
3 yearling bulls of the right kind. 2 high-class herd headers, 12 months, one from imp. cow, 4 bull calves, also young cows and heifers, some good milking strains.
Stewart M. Graham, Lindsay, Ont.

1854 MAPLE LODGE STOCK FARM 1914
Shorthorns and Leicesters
I have a most excellent lot of young rams for sale, mostly sired by imported Connaught Royal. Something very choice in young bulls. House one mile from Lucan Crossing G. T. Ry.
A. W. SMITH, MAPLE LODGE, ONTARIO

SHORTHORNS FOR SALE
I have two extra roan bulls; fourteen and fifteen months old, one from Imp. dam. Also some heifers, all bred in the purple. Phone or write.
Hugh Thomson, Box 556, St. Mary's, Ont.

Shorthorns "Trout Creek Wonder" at numbers about 40 head. Heifers and bulls of the best quality for sale at reasonable prices.
Duncan Brown & Sons, RR 2, Shedden

THE MANOR SHORTHORNS AND LINCOLNS
Young bulls, also heifers, got by, and cows in calf to one of the good bulls of the breed. In Lincoln's 8 yearling rams and 10 ram lambs by an imported ram. Inspection solicited.
J. T. GIBSON, Denfield, Ont.

as possible when the cap is put on, and to have them thoroughly sterilized in this way. With vegetables, it is often advisable to cook them on three different days in order to secure thorough sterilization.

8. When you sow alone, weeds are liable to choke out the seeding, and a good crop of grain can often be obtained along with a good stand by using from a bushel to a bushel and a half of barley. Wheat is also good to seed with.

Questions and Answers.
Miscellaneous.

Tanning Skins with Hair On.
Will you please publish one of the best methods of how to tan muskrat and beaver skins with fur on. J. P. B.

Ans.—We give below three recipes for tanning such skins with the fur on:

1. Stretch the skin smoothly and tightly upon a board, hair side down, and tack it by the edges to its place. Scrape off the loose flesh and fat with a blunt knife, and work in chalk freely, with plenty of hard rubbing. When the chalk begins to powder and fall off, remove the skin from the board, rub in plenty of powdered alum, wrap up closely, and keep it in a dry place for a few days. By this means, it will be made pliable, and will retain the hair.

2. Soft water, 10 gallons; wheat bran, ½ bushel; salt, 7 pounds; sulphuric acid, 2½ pounds. Dissolve together, and place the skins in the solution, and allow them to remain 12 hours, then remove and clean them well, and again immerse 12 hours longer, if necessary. The skins may then be taken out, well washed and dried. They can be beaten soft, if desired.

3. Saltpetre, 2 parts, alum, 1 part. Mix. Sprinkle, uniformly, on the flesh side, roll up, and lay in a cool place. Spread it out to dry; scrape off the fat, and rub till pliable.

Oil Cake Meal vs. Turnips.

1. Kindly let me know the relative value of turnips at 20c. per bushel, and oil-cake meal at \$30 per ton for feeding beef cattle.

2. Also, should a ratepayer have a reduction in his assessment on his property after his barns and crops have been destroyed by fire? J. R.

Ans.—1. There is considerable difference in the amount of dry matter and feeding nutriment in a ton of turnips and a ton of oil-cake meal. One ton of turnips will contain 228 pounds of dry matter; the rest is moisture. A ton of oil-cake meal will contain 1,820 pounds of dry matter. Protein, carbohydrates, and fats, are the three nutriment in a fodder upon which its value is based. Following is a small table showing the contents of these three ingredients per ton in the two different feeds:

	Lbs. protein.	Lbs. Carbo-hydrates.	Lbs. Fats.
Oil cake	650	714	48
Turnip	20	16.2	4

You will see by this table that it would require 32 tons of turnips to supply as much protein as one ton of oil-cake meal. It would require 44 tons to supply as much carbohydrates as one ton of oil-cake meal, and it would require 12 tons of turnips to supply as much fat as one ton of oil-cake meal. There are about 33 bushels of turnips to the ton, and at 20c. a bushel this would be approximately \$6.60 a ton. From this, you can judge for yourself the relative value of these two different feeds. It is outstandingly in favor of the oil-cake meal, and although it is somewhat laxative in nature, yet a few turnips along with other feed, even if it does contain oil-cake meal, is very beneficial indeed. They should not be altogether dispensed with, but if you can sell turnips at 20c. a bushel and procure oil-cake meal at \$30 a ton, it is a good deal. It would be well, however, to consider that oil-cake meal should not be fed in large quantities. Three or four pounds per day is a very safe ration for one mature animal.

2. You will have to take this matter before the Court of Revision. You might have difficulty in obtaining a reduction during this season, but out of justice you will, no doubt, be able to do so for the succeeding year.

Make Your Stock and Poultry Pay Better with
Royal Purple
STOCK AND POULTRY SPECIFICS

At a cost of less than a cent a day per head of stock, it will increase their value 25 per cent. Permanently cures Colic, Debility, Worms, Bots and Skin Diseases. Tones up run-down animals so that they quickly gain weight and vigor. Increases the yield of milk cows three to five pounds a day, besides enriching the quality of the milk.

ROYAL PURPLE is not a food. It is a conditioner—the best ever so'd. If there was any better we would be making it. It enables your stock to eat the natural food they should eat and get the most benefit from it. Here is the advice of all thorough veterinary doctors—"Feed your stock on food of your own growing—not pamper them with soft predigested mush so that after a time they cannot digest good, wholesome feed. Feed the good food grown on your own farm—hay, oats, bran, chop, etc. You know what these things cost you and what they will do.

ROYAL PURPLE is an aid to these natural foods and if you use it as directed, we can guarantee better results than if you feed any of the concoctions offered on the market as "prepared foods."

health stock around his place. Try it on the poorest-conditioned animal you have and we know you'll be surprised at the result of a short treatment. Cattle and hogs fatten up a month earlier than without it, which means you save a month's feed and a month's labor. You can bring six pigs to the pink of condition at the cost of \$1.50. Steers treated in the same way cost no more than \$1.00 each to put in prime state for market. **ROYAL PURPLE SPECIFIC** fattens and keeps well horses, mares, colts, cows, calves, steers, hogs. Sold in packages, 50c. and air-tight tins, \$1.50.

Try ROYAL PURPLE POULTRY SPECIFIC on Your Hens

Do you know that **ROYAL PURPLE POULTRY SPECIFIC** makes hens lay in winter as well as in summer, and keeps them free from disease? It does, and helps them over the moult, fattens and keeps them in vigorous health. A 50c. package lasts 25 hens over 70 days. Shouldn't you try it? We have hundreds of recommendations from all parts of the country. If **ROYAL PURPLE** does not give you better results than anything you ever used, or give you satisfaction, we will refund your money. No matter what your opinion of other preparations, we want you to give **ROYAL PURPLE POULTRY SPECIFIC** a chance to show what it can do for your poultry—and a 50c. package will show you some fine results. Sold in 25c. and 50c. packages and \$1.50 air-tight tins.

Try It On a Poor-Conditioned Animal

If there is a run-down, poorly nourished beast on your farm, see what **ROYAL PURPLE SPECIFIC** will do for it. A 50-cent package lasts a cow or horse 70 days. The cost is so trifling that no farmer in Canada has any excuse for having out-of-

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- Royal Purple Cough Specific for cough and distemper. (Will cure any ordinary cough in four days). 50c. by mail 60c.
- Royal Purple Sweet Liniment for lameness, rheumatism, sprained tendons, etc. 50c. by mail 60c.
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- Royal Purple Lice Killer for poultry and animals. 25c and 50c. by mail 30c and 60c.
- Royal Purple Gall Care for scratches, harness scalds, open sores, etc. 25c and 50c. by mail 30c and 60c.
- Royal Purple Soup Specific for roup, dip, diphtheria, typhoid fever, canker, white diarrhoea, swelled head, etc., in poultry. 25c. by mail 30c.

Free TO STOCK AND POULTRY RAISERS
We will mail for the asking our new revised 80-page book on common ailments of stock and poultry. Tells how to feed light and heavy horses, colts, mares, cows, calves, steers, hogs; also how to feed and keep poultry so that they lay winter and summer. Cover lithographed in six colors, showing farm utility birds in their natural colors. This is a book that should be in every farmer's possession. IT'S FREE. Write for your copy today.

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"THE AULD HERD"
We have a select lot of females of all ages, and of the best Scotch families for sale. Also a March bull calf, red, little white, an Orange Blossom by Broadhooks Ringleader.
A. F. & G. AULD, Eden Mills, P.O. Guelph of Rockwood Stations

Shorthorns & Clydesdales
We have seven yearling bulls and seven bull calves from 7 to 12 months. All reds and roans, and of choice breeding. We have some extra good imported mares for sale, also some foals. If interested write for catalogue of their breeding.
W. G. PETTIT & SONS, FREEMAN, ONTARIO
Burlington Junction, G. T. R. Bell Phone.

Maple Grange Shorthorns
Pure Scotch and Scotch topped. Breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers.
R. J. DOYLE, Owen Sound, Ont.

Willow Bank Stock Farm Shorthorns and Leicester Sheep. Herd established 1856; flock 1848. The imported Cruickshank Butterfly Roan Chief—60865—heads the herd. Young stock of both sexes to offer. Also an extra good lot of Leicester sheep of either sex; some from imp. sires and dams.
James Douglas, Caledonia, Ontario

Brampton Jerseys
We are doing the largest business we ever did, chiefly with our old customers young bulls and heifers from sires with tested daughters. Several imported cows and bulls for sale. Canada's Greatest Jersey Herd.
B. H. Bull & Son, Brampton, Ont.

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No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use Fleming's Spavin and Ringbone Paste. Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single 45-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of Fleming's Vest-Pocket Veterinary Adviser. Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses. FLEMING BROS., Chemists, 75 Church Street, Toronto, Ont.

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A SOLID PROPOSITION. To send fully guaranteed, a new, well made, easy running, perfect skimming separator for \$11.95. Skims warm or cold milk; making heavy or light cream. Absolutely on Approval. The best is a sanitary marvel, easily cleaned. Different from this picture, which illustrates our large capacity machines. Shipments made promptly from WINNIPEG, MAN., TORONTO, ONT., and ST. JOHN, N. B. Whether your dairy is large or small, write for our handsome free catalog. Address: Box 1290 AMERICAN SEPARATOR CO. SALEM, N. Y.



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10c

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Present offering five choice bulls suitable for high class herd headers 7 to 10 months and females all ages of choicest breeding. Former sires:—Joy of Morning (Imp.) = 32070 = and Benachie (Imp.) = 69954 =. Present stock bull Royal Brace (Imp.) = 55038 =.

GEO. D. FLETCHER, R. R. No. 2, Erin, Ont. Erin Sta. C.P.R.

LOCHABAR STOCK FARM

Choice Dairy Shorthorns, Leicester Sheep, and Berkshire Pigs. I am offering males and females of different ages, same breeding as won for me at Guelph, London and other fairs. The above stock are mostly the get of imported sires and dams. Correspondence solicited. Prices reasonable. Long distance phone in connection.

D. A. GRAHAM, R. R. No. 3, Wyoming, Ont. Shipping Stn., Wainstead, G. T. R.

WOODHOLME SHORTHORNS

I have for sale a most attractive offering in young bulls and young females, pure Scotch, breeding unsurpassed, the low thick kind. Write me your wants. G. M. FORSYTH, North Claremont, Ont.

Maple Grove Holsteins

Present offering: a few bulls fit for service, sired by the great King Lyons Hengerveld, who is beyond doubt the richest butter and milk bred bull of the breed in Canada. These bulls are out of high testing R.O.M. cows and heifers, and individually are unsurpassed. Also a few heifers just freshened. If you want the best write me for prices and particulars.

H. BOLLERT, R.R. No. 1, Tavistock, Ont.

Holstein Bull Calves

2 bulls 9 to 10 months age 1st prize animal—best milking strain from both sire and dam, moderate price for prompt sale. Address: PETER BROWN, Mgr. for A. S. ROGERS, NEWMARKET, ONTARIO.

Gossip.

BARBER BROS' 1914 CLYDESDALE IMPORTATION.

Barber Bros., of Gatineau Point, Que., a short distance from Ottawa, have lately landed their 1914 importation of Clydesdale stallions. Barber Bros. have the true conception of the term "draft horse." They never import pony Clydesdales, and this lot will still enhance their reputation as importers of the very best kind of big draft horses. Draft character from the general contour of their bodies to the bottom of their feet is predominant in all of them, and this, coupled with their strong flat, flinty, good-wearing quality of bone, makes them one of the best importations of the ideal in draft horses landed in recent years. The few mentioned will give some idea of the great breeding they carry. Loudonhill Lad 15432 is a bay three-year-old, by the Cawdor Cup Champion, Revelanta; Solon 15426 is another bay three-year-old, by the Royal first-prize horse, Rycroft; Strathtay 15427 is a bay rising three, by the Invernie and Kilmarnock champion, Mendel. Another bay, rising three, is Gladiator 15425, by the renowned champion, Everlasting. These mentioned show the care exercised by the Messrs. Barber in the matter of breeding, and the pedigrees all through show the blood of Scotland's most famous sires, and this is the case with the entire lot, from yearlings up. All are for sale, and Barber Bros. are satisfied with a living profit.

JAMES BENNING'S AYRSHIRES.

Without any blow or shouting from housetops, James Benning, of Williamstown, in Glangarry Co., a few miles from Lancaster Station, has in his large herd of Ayrshire cattle, many of the most profitable and heavy milk producers in this country. He works along with his cattle in his own quiet way, making a careful daily note of the yield of all his cows and heifers, and his system of culling out the unprofitables is as unyielding as adamant. He has been doing this for many years, and the splendid uniformity of showing form, and the big, well-balanced udders of the many cows and heifers, show the herd to have reached a high standard. A remarkable uniformity of trueness in their lines and ideality in type is conspicuously manifest in the daughters of the present stock bull, Imp. Lessnessock Comet, of which there are 22 due to freshen in the fall to a grandson of Imp. Cross of Knockdown, and out of a 45-lb.-a-day dam, with a butter-fat test of 4.02 per cent. The past summer the butter-fat test of the 22 in milk was 4.06 per cent., and a number of the mature cows giving up to 60 lbs. a day, and two-year-old heifers 41 lbs. a day. Anything in females, heifers, or mature cows, is for sale. Among the several young bulls, four of which are old enough for service, sired by the stock bull, is one out of Torrs Coney 2nd (imp.), whose record is 60 lbs. of 4.2 per cent. milk a day. Others are of the famous old big-producing Floss strain. Write your wants.

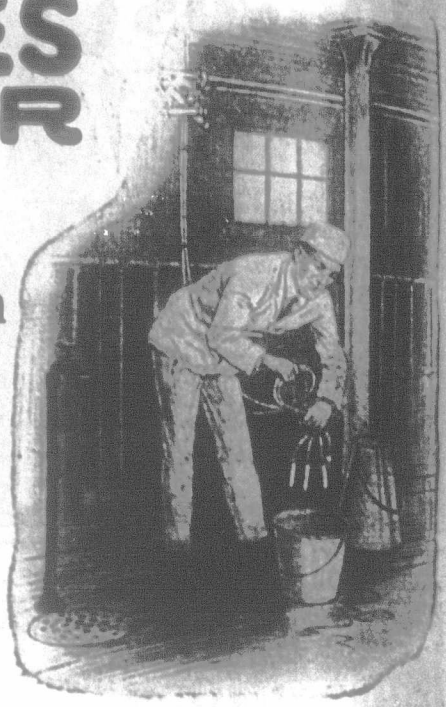
Trade Topic.

The convention of Brandram-Henderson, Limited, makers of Brandram's B.-H. Genuine White Lead, and B.-H. "English" Paints, which are advertised in this paper, was held at Halifax at the end of 1912, and in the previous year it was held at Montreal. In order to give the Eastern and Western men a better chance to fraternize, however, the last one was held at Toronto. It opened on the morning of the 18th of December, at the Queen's Hotel, and two whole days were given to conferences and discussions on various subjects connected with the selling of paints and varnishes. Brandram-Henderson Limited, are makers and distributors in Canada of the famous B.-H. Genuine White Lead. The Company's plant at Montreal in which this lead is corroded, is one of the finest of its kind in the world, and was built at a cost of \$300,000. It is with the product of this plant that Brandram-Henderson "English" Paints are made at the Company's paint factories in Montreal and Halifax. They have sales branches at St. John, Toronto, and Winnipeg, also a distributing depot at Edmonton.

SHARPLES MILKER

Easy to Clean

Easy to Keep Clean



"They are easy to take care of," writes one SHARPLES MILKER user, whose name we will be glad to furnish on request. "When we get through milking we milk a pail of water through them, the machine is cleansed in water about scalding, then placed in a solution of lime water.

"The machines do not hurt the cows. We have used them eighteen months. To anyone in the dairy business I would recommend them. We are milking around seventy cows daily in an hour and ten minutes. We use five units.

"One man attends to the milkers and another man strips the cows. The cows like it better than hand milking and it does away with the labor problem. I had to keep eight and nine men on my farm, but after pay day we might have one or two to do the milking. It just made things hum for the foreman and one or two men that would be regularly on the job. Now we are

under no obligations to them. Everything works smoothly and there is no friction among the men picking out the easy milkers and all those stunts."

The SHARPLES MILKER now is being used in dairies of from 15 to 700 cows. Built sturdily, its operation is absolutely reliable.

Ask the editor of any national authoritative dairying paper what he thinks of the SHARPLES MILKER.

Catalog on request.

The Sharples Separator Company
WEST CHESTER, PA.
Winnipeg, Canada
Toronto, Canada
Agencies Everywhere

LAKESIDE AYRSHIRES

A select lot of young bulls, all ages, sired by the following: Barcheskie Cheerful Boy (Imp.) 28879 (7731); Hobland Bonnie Boy (Imp.) 33275 (8776); Morton Mains Planet (Imp.) 33279 (8774); Auchenbrain Sea Foam (Imp.) 35758 (8865). Imported dams. Record of Performance dams.

GEO. H. MONTGOMERY, Proprietor Dominion Express Bldg., Montreal.
D. McARTHUR, Manager Phillipsburg, Que.

GLENHURST AYRSHIRES

ESTABLISHED OVER 50 YEARS AGO, and ever since kept up to a high standard. We can supply females of all ages and young bulls, the result of a lifetime's intelligent breeding; 45 head to select from. Let me know your wants.

JAMES BENNING, WILLIAMSTOWN, P. O. Summerstown Sta., Glangarry.

STOCKWOOD AYRSHIRES

Stocks of all ages for sale, one 12 months old bull (Imp.) in dam will make a winner for someone; also bull calves from a week to two months old all from show cows and sired by White Hill King of Hearts, a son of the great bull Emu Mee, and a half-brother of Brae Rising Star, highest priced bull in Scotland; prices and terms easy.

D. M. WATT ST. LOUIS STA., QUEREC.

HOLSTEIN CATTLE

The Buyer's Opportunity

We have more Cattle than we can stable. Some of the finest young bulls and heifers we ever offered; their breeding and quality is the very choicest, they will be sold worth the money. Don't wait to write, but come and see them.

D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont. Long Distance Phone 2471

LAKEVIEW HOLSTEINS

Senior herd bull—Count Hengerveld Fayne De Kol, a son of Pietertje Hengerveld's Count De Kol and Grace Fayne 2nd. Junior herd bull—Dutchland Colantha Sir Mona, a son of Colantha Johanna Lad and Mona Pauline De Kol. Third bull—King Canary Segis, whose sire is a son of King Segis Pontiac, an 1 whose dam is 27-lb. three-year-old daughter of a 30-lb. cow. Write for further information to—

E. O. OSLER BRONTE, ONT.

HOLSTEINS


I can supply a limited number of high-producing and highly-bred bulls, bred on both sides from high official backing. Let me know your wants.

W. E. THOMPSON, R.R. No. 7, Woodstock, Ont. L.-D. Phone.

Dr. Maria Montessori

FEBRUARY 5, 1914

Lump Jaw



The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Lustrously bound, indexed and illustrated. Write us for a free copy.

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BLATCHFORD'S CALF MEAL

The Complete Milk Substitute

The result of over 100 years' experience with calf-raisers. The only Calf Meal made in an exclusive Calf Meal Factory. As rich as new milk at less than half the cost. Makes rapid growth. Stops scouring. These calves can be raised on it at the cost of one Get Bulletin. "How to Raise Calves Cheaply and Successfully Without Milk" by sending a post card to

Steele, Briggs Seed Company,
Toronto, Ontario



If you want value for your money insist on

RICE'S PURE SALT

Best for table, dairy and general use.

North American Chemical Co., Limited, Ontario
Clinton, Ontario

Prilly, 7 day butter record	-	25.20-lbs.
Beauty Pietertje	-	30.51 "
Lilian Walker Pietertje	-	30.01 "
Ruby Wayne Pietertje	-	30.22 "
Segis Wayne Pietertje	-	27.85 "
Buttercup Clothilde Pietertje	-	32.92 "
Mary Wayne Pietertje	-	31.81 "
Marion Wayne Pietertje	-	31.63 "

These are the 3.405 Champion Generations of the

HOLSTEIN HERD

Buy a son of King Segis Walker from daughters of Pontiac Korndyke and get connected with this family.

A. A. FAREWELL :: Oshawa, Ont.

Woodbine Holsteins

Young bulls and bull calves, sired by Duke Beauty Pietertje; sire's dam's record 32.52 lbs. butter, and his two grand-dams are each 30-lb. cows, with 30-lb. daughter, with 30-lb. granddaughter. Three generations of 30-lb. cows. If you want a bull that will prove his value as a sire, write

A. KENNEDY & SONS, R.R. No. 2, Paris, Ont.
Stations: Ayr, C. P. R.; Paris, G. T. R.

HOLSTEINS & YORKSHIRES

Minster Farm offers bull fit for service from a date of a 4-year-old Heifer with R.O.P. record of 14,753-lb. and 540-lbs. butter, and Lakeview Burke Fayne whose dam and sire's dam average 22,14-lbs. of butter 7 days. For extended pedigree write: Richard Honey & Sons, Brickley, Ont.

Holsteins, Young herd headers.

Just now headers up to 15 mos. of age, closely related to our Toronto Dairy Test Champion, and sired by the richly bred, Imperial Pauline De Kol.

R. W. Walker & Sons, Utica P. O. Manchester Station.

The Maples Holstein Herd

Headed by Prince Aaggie Mechthilde. Present offering: Bull calves born after Sept. 1st, 1913. All sired by Prince Aaggie Mechthilde and from Record of Merit dams. Prices reasonable.

WALBURN RIVERS,
R. R. No. 5, Ingersoll, Ontario

For Sale

Reg. Holsteins—A few choice young cows, due to calve March and May; also three yearling heifers from officially tested stock.

W. A. BRYANT, Strathroy, Ont. R.R. No. 3.

Please mention "The Farmer's Advocate."

Gossip.

LAST CALL FOR A. E. HULET'S HOLSTEIN SALE.

The place is Norwich, Ont., in Oxford Co., and the date, Wednesday, February 11, 1914, and the occasion the complete dispersion of the high-class show and producing herd of Holstein cattle owned by A. E. Hulet, of Norwich, the chance of a lifetime, and the opportunity unprecedented of purchasing at auction-sale prices the cream of Canada in the world popular black and white dairy cattle. This should be the sale of the century, for the quality is there, and they will surely be sold, so don't let any suspicions keep you away if you want them.

H. F. PATTERSON'S HOLSTEIN SALE

Another big sale of Holsteins of decidedly more than ordinary interest, owing to the superior quality of the animals to be sold, will be held on Thursday, March 12th, the property of H. F. Patterson, R. R. No. 4, Paris, Ont. Mr. Patterson has rented his farm for a term of years, and on the above date will hold a complete and unreserved auction sale of his entire herd of fifty head of R. O. M., R. O. P., and prizewinning Holsteins. Forty-five females and five bulls will be sold. The sale will be held at the farm, five miles from the city of Brantford, but on the day of the sale all trains from Brantford, Toronto, or Harrisburg, will stop at Alford Junction Station, three-quarters of a mile from the farm, where conveyances will meet every train. In following issues will appear a short resume of the merits of the animals to be sold, but for full particulars write Mr. Patterson to the above address for a catalogue.

Trade Topic.

EXPLOSIVES FOR AGRICULTURAL PURPOSES.

Explosives for agricultural purposes are now being used very extensively throughout Canada. The modern farmer realizes their benefit, and is putting them to use for clearing land, tree-planting, and ditching. Stumps and boulders can be easily and quickly removed by their aid, and fields that heretofore were of little or no use, are now bearing splendid crops, due to this new and powerful agency. Explosive manufacturers in Canada are now making an explosive particularly adapted to the agricultural trade, called stumping powder. It is less dangerous to handle than dynamite, and more effective for this class of work. Stumps of a diameter of two feet can be entirely raised out of the ground, and split in several pieces, for an average cost of 35c. Boulders weighing up to two tons can be broken for approximately the same cost. These figures are ridiculously small compared to the cost of clearing land by the antiquated method, and the up-to-date farmer now realizes that when he can clear his land so easily with explosives, he cannot afford to have idle or waste lands on his farm. Ditches of an average depth of 3½ feet, and 4 feet to 6 feet wide, can be made by explosives at a cost of 90c per rod. One man can easily blow 25 rods of ditch in a day. Swampy land can often be drained by exploding shots of stumping powder in holes drilled perpendicularly to a depth till the impervious hard-pan is reached; this has the effect of shattering the hard-pan and allowing the surface water to drain through. It is a well-known fact that trees planted in holes made with explosives will thrive better than when planted in spade-dug holes. The earth is entirely pulverized, and allows the tender roots to immediately expand in all directions in search of valuable plant-food; they are not cramped up and the growth stunted until they become sufficiently strong to force their way through the hard earth. Enterprising explosive companies are now sending demonstrators through the country, demonstrating the various uses to which explosives can be put to on the farm. They also issue very neat and explicit literature on the subject, and we feel it will be of interest to all our readers to attend one of these demonstrations or write the explosive companies for booklets.

Grand Dispersion Sale

EVERGREEN STOCK FARM PURE-BRED HOLSTEINS

Forty Females and Ten Males

At the farm, NORWICH, ONT.

Wednesday, Feb. 11th, 1914

SALE WILL COMMENCE AT ONE O'CLOCK P.M.

This is the first time in the history of Holsteins in Canada that a prizewinning herd such as we have was ever offered at public auction. This herd in 1913 won nearly \$1,500 in cash prizes, besides two gold medals and several diplomas. Every animal in the herd is a good individual. Every cow is a first-class producer and a regular breeder. We haven't done much testing, but we have cows with 7-day records up to 25 lbs. butter, 3-year-olds up to 22½ lbs., and 2-year-olds up to 17 lbs. The cattle, without a single exception, are all in a healthy, thrifty condition and are sure to make good.

Among the lot are: One yearling heifer (bred), and two bulls nearly ready for service, sired by a son of the new Canadian champion cow, May Echo Sylvia (over 34 lbs. butter 7 days); two daughters, two granddaughters and three grandsons of Madame Posch Pauline, 101.3 lbs. milk one day, 660 lbs. seven days and 2,752 lbs. in 30 days; 26.74 lbs. butter seven days, 108.45 lbs. 30 days, at 4 years of age; six daughters and four sons of Prince Abbecker Mercena, grand champion bull at Toronto and Ottawa, 1913.

Don't miss this sale, you may never have another opportunity of securing your choice of so many good Holsteins. Everything offered will be sold to the highest bidder.

COL. WELBY ALMAS, Brantford, Ont. } Auctioneers. JOHN MAKER
MAJOR E. R. ALMAS, Norwich, Ont. } Norwich, Ont., Sec. of Sale

CATALOGUES FROM

A. E. HULET Norwich, Ontario

50 R.O.M. Holsteins, R.O.P. Holsteins 50

BY AUCTION

Having rented his Farm Mr. H. F. Patterson, R.R. No. 4, Paris, Ont., will, at his farm on

Thursday, March 12th, 1914

hold a complete dispersion sale of his entire herd of 50 R.O.M. and R.O.P. Holsteins, 45 females and 5 bulls, every one a high-class proposition both as individual's and as producers and all in the finest condition.

R.O.M. Records from 18 to 23-lbs., Mature 3-year-olds up to 21.43-lbs.; 2-year-olds up to 14.62-lbs. R.O.P. records from 10,776-lbs. for 2-year-olds, up to 21,556-lbs. for mature cows, the latter a private test, many of them with delivered to the Brant factory from any 15 cows. Oa day of sale all trains from any direction will stop at Alford Jc. Station, where conveyances will be in waiting.



B.F. tests, official, over 4% and up to 95, 8-oz. of milk in one day; among them being the 2nd prize cow at the Guelph Dairy Test, both in standing and production; also the herd won 1st prize for largest quantity cream

TERMS: Cash, or 7 months at 7%.

WELBY ALMAS, Brantford, Ont., Auctioneer.

For Catalogue, write: H. F. Patterson, R.R. No. 4, Paris, Ont.

Fairview Farms Herd

Offers for sale: A son of Rag Apple Korndyke 8th out of a daughter of Pontiac Korndyke with a record of 27.72 lbs. in 7 days, averaging 4¼% fat. Grand dam has a record of 29 lbs. Calf is nearly ready for service. Write me for description and breeding.

E. H. DOLLAR, HEUVELTON, N. Y. (near Prescott, Ont)

HOLSTEINS

Registered Pure Bred, Male and Female Stock for sale. Have two choice Bull Calves, sired by 30 lb. Bull. Dams, 16.48 and 19.12 butter in 7 days. Price \$75.00, and take your pick. Also one from 25 lb. Son of Homestead Girl DeKol Sarcastic Lad. Dam 20 lb. 4-year-old, Price \$65.00.

F. HAMILTON, HAMILTON FARMS, ST. CATHARINES, ONT.

Sunnybrook Yorkshires and Holsteins

In Yorkshires we can supply either sex from a few weeks old up to breeding age, sired by our champion boar Eldon Duke (32228), and out of prizewinning sows. Also richly-bred Holstein cattle of all ages. **WM. MANNING & SONS, WOODVILLE, ONTARIO, Grasshill Sta., C.P.R. and G.T.R.**



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Columbia Patented Batteries have been doing good work for a quarter century. They're just right for your gas engine, bell, telephone, tractor, barn lights or auto. Used and sold all over the world. Easy to buy.

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**THE CANADIAN NATIONAL
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Our specialty is **CANADIAN RAW FURS**. Write for our free price list. We pay all mail and express charges. Remit same day as goods received. Hold shipments separate when requested. Prepay charges for returning furs if valuation is not satisfactory. We do not buy from dealers, but from trappers only.

HALLMAN FUR CO., Toronto, Ontario
N. Hallman, Manager, 4 years with John Hallman; E. J. Hagen, Trapper, 11 years with John Hallman; J. L. Jewell, Buyer, 7 years with John Hallman; G. Hagen, Secy., 7 years with John Hallman.

FARNHAM OXFORDS & HAMPSHIRE

Oldest established flock in America. Our present offering is a few superior Oxford ewe lambs and ram lambs.

HENRY ARKELL & SON, Arkell, Ont.

Alloway Lodge Stock Farm

Aberdeen Angus Cattle
Southdown Sheep
Collie Dogs

A few heifers and young cows in calf to the Chicago winning herd bull, for sale as well as some very strong young bulls. Four very promising puppies from imported stock are also offered.

ROBT. McEWEN, Byron, Ont., Near London

OXFORD DOWN SHEEP

We have the champion Oxford Flock of America. Winners at Chicago International, Toronto, London, Winnipeg, Regina, Brandon and Saskatoon Fairs. Present offering: 100 ram and ewe lambs, and 50 yearling ewes by imported rams. Consult us before buying.

Peter Arkell & Sons, Teeswater, Ont.

Tower Farm Oxford Downs—We are offering a choice lot of ram and ewe lambs from our imported rams; also a few one- and two-shear ewes bred to our imported Hobbs ram winner at the Royal Show. E. Barbour, Er. n. Ont., P.O. and station. L.-D. Phone

Tamworths—Sows bred for spring farrow, \$50 each; Boars \$5 to \$80 Registered. Write for particulars.
JOHN W. T. CDD,
R. R. No. 1, CORINTH, ONTARIO

Cloverdale Large English Berkshires No matter what your needs in Berkshires may be see Lang the live Berkshire man. He is always prepared to furnish anything in Berkshires. Write or come and inspect.
C. J. LANG,
Hampton, Ont., Durham Co.

Tamworths—I have two choice lots of sows, 8 months old, that are bred to an extra good boar. Also a few boars large enough for service.
HERBERT GERMAN, St. George, Ont.

MAPLE LEAF BERKSHIRES for sale at reasonable prices, boars fit for service, also young pigs ready to wean; boars and sows 3 and 4 months old, bred from imported stock. Satisfaction guaranteed.
J. Lawrence, Woodstock, Ont. R.R. #

Yorkshire Sows For Sale, four choice Yorkshire sows, bred; show stock, weight about 300-lbs.
GEO. D. FLETCHER, R.R. No. 2, Erin, Ont., Erin Sta., C.P.R.

Gossip.

CLYDESDALES AND HACKNEYS AT MOUNT VICTORIA FARM.

The high-class character of the horse-breeding end of the famous farm, Mount Victoria, at Hudson Heights, Que., owned by T. B. McCauley, of Montreal, is largely attributed to the skillful and professional management of Dr. E. Watson, V. S., whose several years' services as chief manager have made a fame for Mount Victoria Farm. In past years, special attention was paid to the breeding of Clydesdales, and to that end there were purchased at long prices the noted breeding and prize horses, Neatherlea (imp.) 8324, by the four-times winner of first prize at the Highland, Pride of Blacon, and the noted prizewinning son of his, Lord Aberdeen (imp.) 8495. To these was added the big, stylish, noted breeding horse, Lord Mac (imp.) 6015, a bay, sired by the H. & A. S. first prize, Montrave Mac, dam by the renowned Sir Everard, grandam by the £3,000 Prince of Albion. As a sire of big prizewinning draft horses he has few equals. He is for sale, as particular attention is now being centered on the breeding of Hackneys and Shetland ponies. Among the Clydesdale mares and fillies are such big, well-bred ones as the bay three-year-old, Miss Sally (imp.) 29212, by the Royal champion, Diploma, dam by the noted King of Kyle. Another bay three-year-old is Ida (imp.) 29211, by the noted prize and breeding horse, Baron Mitchell. A half-sister to her, by the same sire, is a bay two-year-old, and her mate, also two years old, is by Armadale. They are an extra big pair, and look like reaching near a ton. In younger ones is a particularly good yearling stallion, by Lord Aberdeen, dam by Baron's Pride, and grandam by Macgregor. This is one of the good yearlings that will surely make his mark. A big, nice yearling filly, is by Netherlea, dam by Royal Fashion, grandam by Top Gallant.

It is doubtful if anywhere else in Canada there is so aristocratic a breeding foundation for Hackney ponies as here. The stallion in service is the brown, sensational, all-around acting, Glendernott Wildfire (imp.) 709. He is a full brother to the noted champion of America, Melvalley Masterpiece, sired by Fireboy, and out of Berkeley Primula, by Recruit. Among the recently-imported brood mares is the great Peggy Surefour (imp.) 942, dam of four-champion stallions and four champion harness horses. She is sired by Dane Royal, dam Peggy Sure, by Model. She has a filly foal by Torchfire. Kinderton Gem (imp.) 943, a brown, by Berkeley Model, is another famous brood mare. She has a filly foal by Littlefire. In this pair of mares are the most noted brood mares in England, and the most noted that ever left that country. Julia Jones (imp.) 931 is a chestnut, a full sister to the champion, Fireboy, sired by Julius Caesar 2nd, dam Luxham Fanny, by Gem. This mare has won five first prizes, and is in foal to Littlefire. Who's Who (imp.) 941 is a chestnut that was three times first at the London Hackney Show, sired by Julius Caesar 2nd, dam Peggy Jones, by the same sire. She is in foal to Fireboy. Gumergate Lucy (imp.) 940 is a half-sister, being sired by Julius Caesar 2nd, dam by Monte Christo. She is in foal to Fireboy. Gumergate Snowflake (imp.) 939 is a roan, by Gumergate Caesar. She is in foal to Fireboy. Glenavon Victoria (imp.), by the great Torchfire, is a brown two-year-old that won second in London in a class of 27. A half-sister, by the same sire, is the bay yearling, Ardinersay Flame. Nothing need be said as to the quality of the noted champion stallion, Christopher North (imp.), and the famous champion mare, Ophelia's Heires (imp.), as their superiority has been demonstrated many times.

In Shetland Ponies, there are in breeding some twelve mares, all imported and all personally selected for their individual merit by Mr. McCauley. In service is the Edinburgh and Toronto champion stallion, Silver Star (imp.), the whole making a selection of breeding stock unequalled on the continent.



Interested in Roofing?

THEN write to-day for literature and valuable information on the Roofing Question. We're prepared to prove our claim that Galt Steel Shingles make the best and most satisfactory roofing you can buy. They are handsome, durable, water-tight, wind-proof and fire-proof. You do not need to employ any help to lay Galt Steel Shingles. Any man who can handle a hammer can lay them with one-half the cost of laying wood shingles and one-sixth the cost of laying slats.

Write NOW. Don't put it off and forget. Simply write the word "Roofing" on a postcard, together with your name and address.

THE GALT ART METAL CO., Limited
150 Stone Road, Galt, Ontario.
Cor. Richard and Pine Sts., Winnipeg, Man.

"MAPLE LEAF" BRAND

Oil Cake Meal

Old Process

Absolutely Pure

If it pays the British farmer to send 4000 miles for "Maple Leaf" brand Oil Cake Meal to feed and fertilize his soil, it will surely pay the Canadian farmer to feed it to his own stock and enrich his own soil. Are you feeding Oil Cake Meal? If not, a trial will convince you of the superior quality of our product. All orders given prompt and careful attention. Write us for samples and prices.

THE CANADA LINSEED OIL MILLS, LIMITED,
MILLS AT TORONTO AND MONTREAL.

Special Offering of SHROPSHIRE EWES—40 imported shearing ewes and 40 home-bred shearing and two shear ewes. These ewes have been bred to choice imp. rams. One crop of lambs should nearly pay for them at prices asked. Also some good ewe lambs at a low price.
JOHN MILLER, Brougham, Ont.
Claremont Stn. C.P.R., 3 miles. Pickering Stn. G.T.R., 7 miles.

NEWCASTLE TAMWORTHS, SHORTHORNS AND CLYDESDALES bred from the prize-winning herds of England. Have two choice young bulls for sale 10 months old, out of large, deep-milking cows and also some choice cows. Tamworths both sexes.
CHAS. CURRIE, Morrilton, Ont.

CHAMPION HAMPSHIRE SWINE We have the Champion Herd of Canada. We import more Hogs every year than all other combined; at all times we can supply either sex of any age desired. Write us.
HASTINGS BROS., Crosshill P.O., Newton G. T. R., Linwood G. P. R.

Gramandyne Yorkshires & Tamworths bred from the prize-winning herds of England. Have two choice young bulls for sale 10 months old, out of large, deep-milking cows and also some choice cows. Tamworths both sexes.
CHAS. CURRIE, Morrilton, Ont.

Large White Yorkshires Have a choice lot of sows in pig Boars ready for service and young pigs of both sexes supplied not akin to best British herds. Write or call H. J. DAVIS, Woodstock, Ont. Long-distance phone
C. P. R. and G. T. R.

Morrilton Shorthorns and Tamworths bred from the prize-winning herds of England. Have two choice young bulls for sale 10 months old, out of large, deep-milking cows and also some choice cows. Tamworths both sexes.
CHAS. CURRIE, Morrilton, Ont.

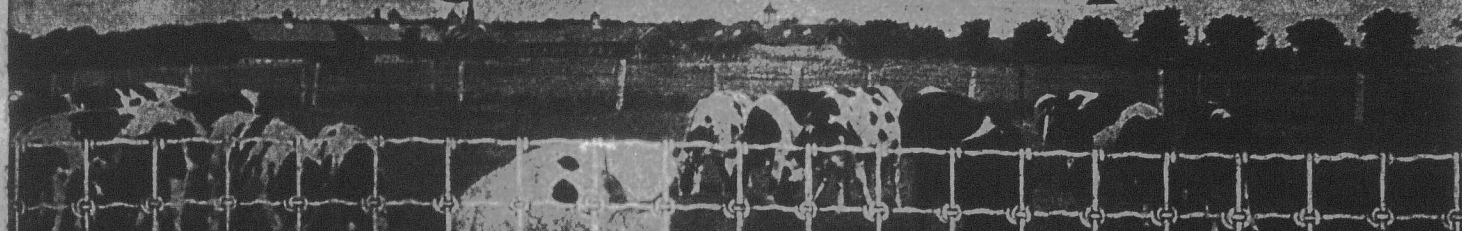
Duroc Jersey Swine—Twenty-five sows bred for fall farrow; a few boars ready for service; also one Jersey bull, 11 months, and two bulls, 6 months old, out of high-producing dams.
MacCampbell & Sons, Northwood, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES From our recent importation of sows, together with the stock boar Suddon Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed on Brantford and Hamilton Radial.

When writing advertisers, please mention "The Farmer's Advocate."

Dr. Maria Montessori

Peerless-Perfection Fencing For All Purposes



There is scarcely a fence requirement that we cannot fill directly from our stock, no matter whether it be farm, poultry or ornamental fencing. We carry the largest stock of fencing and gates carried by any one company in the Dominion.

Peerless Perfection Fencing

is made of Open Hearth Steel Wire. The Open Hearth process burns all the impurities out of the metal, thus removing one of the greatest causes of rust. The wire is also galvanized so thoroughly that it will not flake, chip or peel off. Every intersection of the wires in our farm and poultry fence is locked together with our Peerless Lock. While these locks hold the wires securely together, yet this fence can be readily adjusted and perfectly stretched over uneven ground. It is easily erected and on account of heavy, stiff stays used, few posts are required.

Here's Proof of Peerless Strength and Rust Proof Qualities

Read these letters. Every one comes from a user—one who knows, because he has given Peerless Fence the supreme test of time. Every one bespeaks absolute satisfaction—the kind of satisfaction that you can enjoy.

Not A Complaint On Peerless Fence

Middleton, Ont., January 3, 1913.
Gentlemen:—I have been selling fence for the past seven years and in that time have represented several different firms. It gives me pleasure to say that I took the agency for your fencing for 1912 and have sold in that one year more fence than in the other six years of my business, and the best of it is I have not had one complaint in any way against Peerless fence.
Different from most fences it stretches flat and all wires of even length; the lock is tight and strong and the quality of the wire is of the best.
There is very little other fence used in this district and competition is a word of the past to the agent for Peerless fencing.
Yours truly, J. A. McDONALD

Withstands Run-away Automobile

Morrisburg, Ont., January 14, 1913.
Dear Sir:—Three years ago I sold some Peerless fence to a farmer which he erected along the King's highway. This summer a man with two other passengers was coming along the road in a five passenger automobile when something went wrong with his steering apparatus and he lost control of the car, running full tilt into the fence. The car bounded back from the fence, struck the ditch, then on the rebound went right over the fence into the farmer's field. The fence remained intact—not a single wire was broken.
Yours truly, O. S. COUQUHOUN

Can Find No Rust After Seven Years

Aultsville, Canada, January 10, 1913.
Gentlemen:—I have been selling Peerless Fencing for about seven years and have taken very careful notice to see if there were any rusted but fail to find any. My customers come back to me every year showing that they are satisfied with Peerless Fencing. I honestly say that as long as I can get the Peerless Fencing and such good and honest treatment from the Company I would not think of handling any other fence but Peerless. I remain,
Yours sincerely, A. McNAIRN

Perfectly Satisfactory In Every Way

Welland, Canada, January 14, 1913.
Banwell Hoxie Wire Fence Co., Hamilton, Ont.
Gentlemen:—I must honestly say I have found Peerless fencing and gates perfectly satisfactory in every way. I have never seen any rust on it yet.
Yours truly, ROLAND NIGER

Send For Literature Today

Learn all about this high-grade fence. Go and see it at your local dealer's store. Dealers nearly everywhere. Dealers wanted in unassigned territory.

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



Progressive Farmers Make Handsome Profits from Poultry

THE stoutest advocates of Poultry Raising on the farm are the progressive farmers who have investigated the Peerless Way. These men are alive to the fact that Canada does not produce one third of the poultry and eggs consumed in this country, and that handsome profits go across the border to the American farmer who is called upon to supply the shortage.

You, Mr. Farmer, can have this profit, plus the amount spent in Customs duties and long freight hauls importing eggs and poultry from the States, and you will always have an eager market waiting to buy up all the poultry and eggs you can raise.

Read what this British Columbia farmer says:

Greenwood, B. C., Dec. 1, 1913.
"I am pleased to report a good season for the past summer with the poultry. . . pullets are just commencing to lay. Eggs hatched well and I raised practically all in the Brooder and only lost (1) chick out of 500 hatched. I sold 20 dozen baby chicks and am keeping over 150 pullets, as this the egg trade that I am working up.
"Since last September, eggs have been selling here at 70c. per doz., and at present they are bringing 80c. and are very scarce too."
(Sgd.) A. R. Royce.

The Peerless Way Makes Poultry Pay

The whole idea of the Peerless Way of Poultry Raising is to raise the greatest number of the strongest chickens at the least outlay of money and with the least expenditure of time. We know that a farmer's regular duties do not leave him much time to look after chickens, so we have bent all our energies to perfecting a system whereby a farmer can take care of 400 or 500 chickens the Peerless Way in less time than he can look after 30 or 40 the old way.

The Booklet Tells You How

We want to tell you all about it so that you can study the question from all sides before you spend a dollar. We have written a book called "Money In Eggs," which we want to place in the hands of every up-to-date Canadian farmer. We want you to read and study this book. It will cost you the price of a post card, and it will be the means of adding hundreds of dollars to your income every year.

Mail this coupon NOW.

Lee Manfg. Co. Ltd., Pembroke, Ont.
Please send me the booklet "Money in Eggs"
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Address _____

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Send for free booklet The **DAVIES Co. Ltd.** WEST TORONTO, ONT.

HONEY, Choice clover, extracted, warranted pure, sixty pound can \$7.00, crate of six ten lb. pails \$7.50.
R. E. ADAMSON, MOUNT ELGIN, ONTARIO

NEW COAL OIL LIGHT BEATS ELECTRIC OR GASOLINE

10 Days FREE—Send No Money

We don't ask you to pay us a cent until you have used this wonderful modern light in your own home for ten days, then you may return it at our expense if not perfectly satisfied. We want you to prove for yourself that it gives five to fifteen times as much light as the ordinary oil lamp; beats electric, gasoline or acetylene. Lights and is put out just like the old oil lamp;

BURNS 70 HOURS ON 1 GALLON OIL

Gives a powerful white light, burns common coal oil (kerosene), no odor, smoke or noise, simple, clean, won't explode. Guaranteed.

\$1000.00 Reward

will be given to the person who shows us an oil lamp equal to this Aladdin in every way (details of offer given in our circular).—Would we dare make such a challenge to the world if there was the slightest doubt as to the merits of the Aladdin? We want one person in each locality to whom we can refer customers. Write quick for our 10 Day Absolutely Free Trial Proposition, Agents' Wholesale Prices, and learn how to get ONE FREE.

AGENTS WANTED

to demonstrate in territory where oil lamps are in use. Experience unnecessary. Many agents average five sales a day and make \$300.00 per month. One farmer cleared over \$200.00 in 4 weeks. You can make money evenings and spare time. Write quick for territory and sample.

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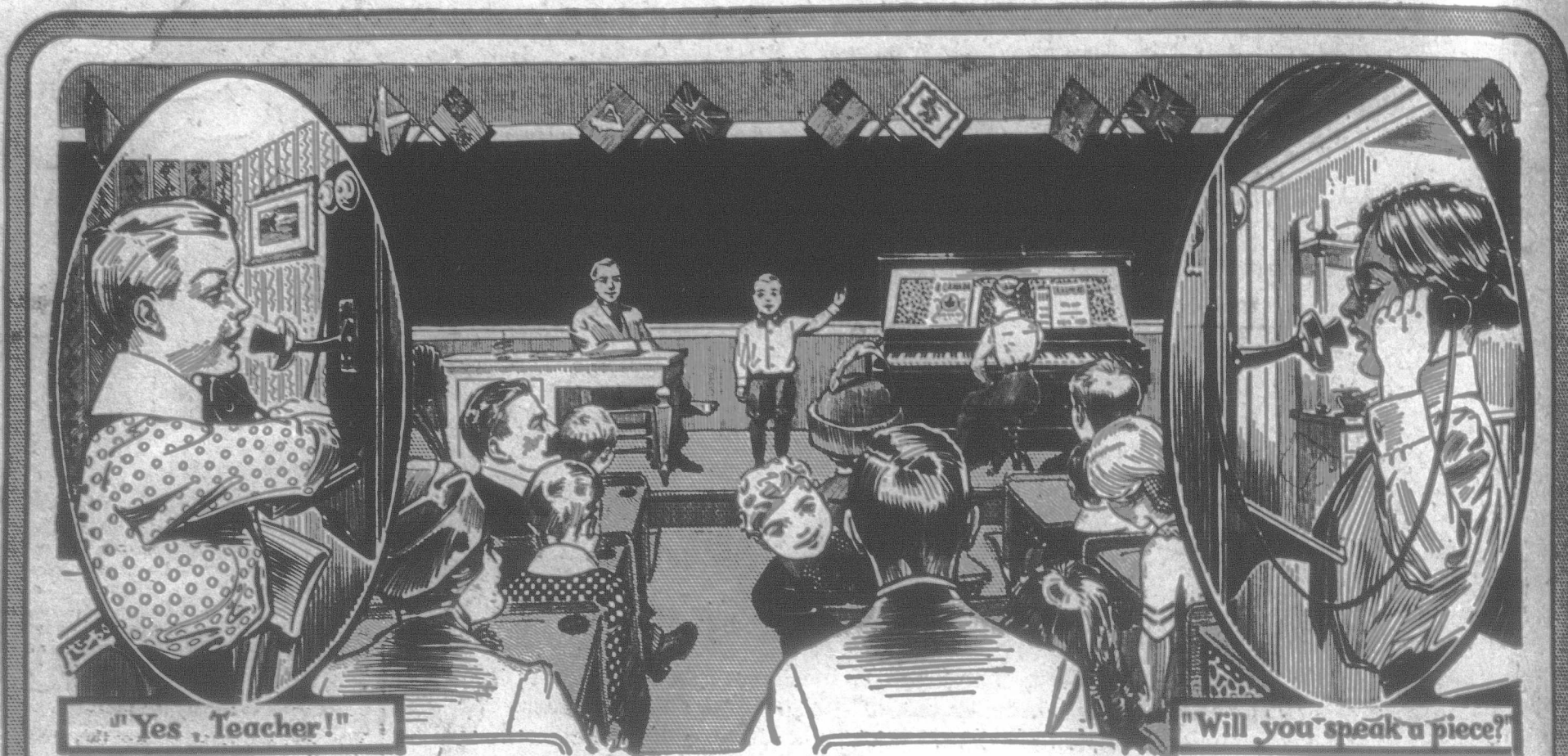
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To better Educate your Children —you should have a telephone

The position your children will occupy, when they grow up, depends almost entirely on their early training.

Your sons may be professional men. They may be business men. Your daughters may go to the city. But whatever walk in life they choose, their success or failure will be determined by their early training and their home surroundings.

Your sons may be farmers. Make them business farmers!

You want your sons and daughters to be bigger, broader, better educated men and women than their parents are. Of course you do! All parents do! Do your part to make them so. Give them every advantage of education and refinement within your power.

The educational influences of the telephone cannot be too highly estimated

A telephone in your home will bring your children into closer touch with their neighbors. It will put them in closer touch with the progress and advancement of towns and cities.

Your sons, if they have a telephone, will be encouraged to take a keener interest in politics; in the work of your local agricultural societies. They will be encouraged to take an active part in all movements to improve local conditions.

Your daughters will be enabled to take an active part in church and social work. Their interest

will be stimulated in your local literary clubs and household science clubs.

A telephone will make your sons and daughters better men and women. It will develop their nature along broader lines and encourage them to improve their education.

We Will Help You Get a Telephone.

You and your neighbors can build a telephone system for yourselves, in your district. We will help you. We will supply all the material and help you do the work. The cost to each of you will be small.

Send for our book, "How to Build Rural Telephone Lines." This book will tell you how other farmers have built telephone lines. It will tell you how rural telephone companies have been organized in different parts of the country.

Many of the best rural telephone systems in Canada have been actually built by farmers, who did all the work themselves—erected the wires and installed the instruments—with our assistance. We supplied all the materials—ready to put up—and furnished complete instructions.

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This book that we have published is probably the most complete work on the subject that has ever been produced.

It is fully illustrated. Anyone who can read can build a telephone system with the aid of this book. Mail this coupon and get the book.

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