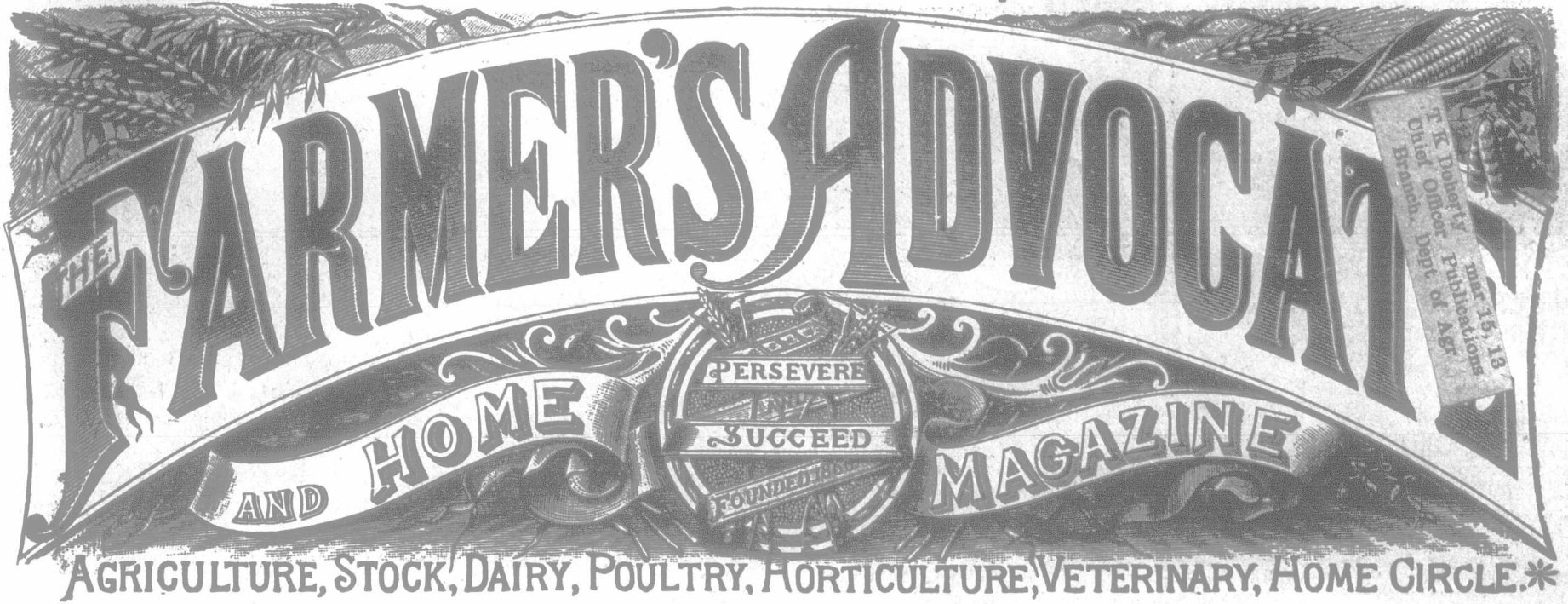


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AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

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VOL. XLVIII.

LONDON, ONTARIO, JANUARY 30, 1913.

No. 1062

Free to Stock and Poultry Raisers

We will send absolutely free, for the asking, postpaid, one of our large sixty-four page books, with insert, on the common diseases of stock and poultry. Tells how to feed all kinds of heavy and light horses, colts and mares, milch cows, calves and fattening steers; also, how to keep and feed poultry so that they will lay as well in winter as summer. No farmer should be without it.

NOW is the time to use Royal Purple Stock Specific. At a cost of only two-thirds of a cent per day per animal, it will increase it 25 per cent. in value. It permanently cures Bots, Colic, Worms, Skin Diseases and Debility. Restores run-down animals to plumpness and vigor. It will increase the milk yield three to five pounds per cow per day and make the milk richer.

Royal Purple is not a stock food. There is no filler used in its manufacture, and we import from Europe all the seeds, herbs, barks, etc., and grind them on our own premises. Therefore, we can guarantee it to you as being absolutely pure. We do not use cheap filler to make up a large package. We give you the best condition powder ever put on the market in a concentrated form.

A tablespoon levelled off, once a day, is sufficient for a full-grown animal. It prevents disease, keeps your animals in perfect health, and is absolutely harmless. It makes six-weeks-old calves as large as ordinary calves at ten weeks. You can develop six pigs ready for market in just one month's less time than you can possibly do without it, at a cost of only \$1.50, saving you a month's work and food.

A 50c. package will last a horse 70 days. A \$1.50 pail or air-tight tin, containing four times as much as a 50c. package, will last an animal 280 days.

If you have never used it, try it on the poorest animal you have on your place, and watch results. If it does not produce better results than anything you have ever used, or give you satisfaction, we will refund your money.

Toledo, Ont., July 1, 1910.

W. A. Jenkins Mfg. Co., London, Canada.

Gentlemen,—I have used a part of a package of your "Royal Purple Stock Specific." I fed it to one cow according to directions. She gained six pounds of milk while using part of a package. The rest of my herd reduced in milk while this one gained. I consider it has no equal.

T. G. BELLAMY.

Bondhead, Ont., Aug. 31, 1912.

The W. A. Jenkins Mfg. Co., London, Ont.

Gentlemen,—After experimenting with a great many stock foods, I was about convinced that there was very little virtue in any of it, but your dealer insisted on the trying Royal Purple Stock Specific, saying it was different from all others. I have since used a great lot of it, as I keep from ten to twenty horses and about the same of cattle. This Specific, in my opinion, is certainly in a class by itself as a conditioner, and is the best I have ever used.

GEORGE MAPES.

Clear Creek, Ont., Sept. 19, 1912.

W. A. Jenkins Mfg. Co., London, Ont.

Dear Sirs,—Your "Royal Purple" Stock Specific is the best stock conditioner I have ever had in my stables, and am never without it. I had a brood sow that had milk fever very bad. Your "Royal Purple" saved her life. Put her on her feet in three days. I had three calves last spring that got scouring very badly. Could not get it stopped until I used "Royal Purple." It did the work O.K.

Yours truly, H. B. MOULTON.

Saskatoon, Sask., Sept. 20th.

The W. A. Jenkins Mfg. Co., London, Canada.

Gentlemen,—Some months ago we bought some of your Royal Purple Stock Specific from Mr. Vogan here. We have been using it ever since, and we find it the best conditioner for driving horses we have ever tried.

H. F. MCCALLUM, "The Palace Livery."

In using our Stock Specific, we guarantee you better results by using the ordinary food grown on your farm, such as good hay, oats and bran, and so forth, than you can possibly obtain by using any of the many patent foods on the market. In these the percentage of nutrition is usually very small for the amount of money paid for the same. You know exactly what hay, oats, bran, chop or any farm products cost you, and ROYAL PURPLE makes animals digest these foods properly.

What we wish to impress on your mind is that we manufacture nothing but pure, unadulterated goods. Our booklet gives over 300 recommendations for our different lines from people all over Canada. While we give you above the names of a few who have used it, our best recommendation is for you to ask any person who has ever used any line we manufacture.

W. A. JENKINS MANFG. CO., London, Ont.

AN ASSORTED ORDER AMOUNTING TO \$5.00 WE WILL PREPAY.

Scott, Sask., May 22nd, 1911.

The W. A. Jenkins Mfg. Co., London, Ont.

Dear Sirs,—Do you want a man to represent your Royal Purple goods in this district. I am from Ontario, and have fed your Stock Specific—got it from Mr. J. Corbett, of Brownsville. My cows, while using it, made the largest average, and tested five points over average at C.M.P. at Brownsville. I know your goods are the highest class Stock Specific on the market, and take great pleasure in representing you in this district.

NORMAN G. CHARLTON.

Royal Purple Poultry Specific

will make your hens lay in winter, as well as summer, and yet a 50c. package will last 25 hens 70 days, or a \$1.50 pail or air-tight tin, containing four times as much as a 50c. package, will last 280 days. It prevents poultry from losing flesh at moulting time, cures and prevents all the ordinary diseases, makes their plumage bright, and keeps them in prime condition.

Port Colborne, May 11.

W. A. Jenkins Mfg. Co., London, Canada.

Dear Sirs,—This is to certify that I have used one \$1.50 tin of your "Royal Purple" Poultry Specific, and there is nothing that can equal it. I wanted yours again and your agent did not have any, so he gave me another brand, and I can assure you it was not worth carrying home, for my hens layed better without it. I have been from 12 to 15 dozen eggs short every week since I have not used your "Royal Purple."

CHARLES RICHARDSON.

Royal Purple

STOCK AND POULTRY SPECIFICS

A second from Mr. Richardson as follows:—

Port Colborne, Ont., Aug. 24, 1910.

W. A. Jenkins Mfg. Co., London, Canada.

Dear Sirs,—Please find enclosed express order for \$3.00, for which please send me two tins of your "Royal Purple" Poultry Specific.

C. RICHARDSON.

A third letter from Mr. Richardson as follows:—

Port Colborne, Ont., Aug. 29, 1910.

W. A. Jenkins Mfg. Co., London, Canada.

Dear Sirs,—I received two tins of "Royal Purple" Poultry Specific all O.K. I have tried all kinds of specific to make my hens lay, and I find that you are the only ones that manufacture the genuine article. All the rest, I think, is a waste of time and money to bother with. As an egg-producer, I cannot praise your Poultry Specific high enough, for I would not be without it if I had to pay double the money.

C. RICHARDSON.

Sherbrooke, Que., Aug. 1, 1910.

W. A. Jenkins Mfg. Co., London, Canada.

Dear Sirs,—I have used your Specific for one year, and have given it to my birds with good results. See my winnings at the different fairs, which will tell the tale.

MISS GEORGINA CAMIRAUD.

Royal Purple Cough Specific

During the last four years there has been an epidemic cough going through every stable in Canada, which has been a great source of annoyance to horsemen. Our Royal Purple Cough Cure will absolutely cure this cough in four days, will break up and cure disemper in ten days. Absolutely guaranteed. 50c. per tin; by mail, 55c.

Royal Purple Gall Cure

will cure all sorts of open sores on man or beast. Will absolutely dry up and cure scratches in a very few days.

Mr. SAM OWEN, coachman for the Hon. Adam Beck, says: "By following directions, I find your Royal Purple Gall Cure will cure scratches and make the scabs peel off perfectly dry in about four or five days." Price, 25c.; by mail, 30c.

Royal Purple Sweet Liniment

will reduce lameness in a very short time. Mr. John M. Daly, coachman in London, says: "We have nine horses constantly teaming coal, and have all kinds of trouble with them being lame at times. I have used your Sweet Liniment for a year back, and have never known it to fail to cure sprained tendons, etc." Price, 50c., 8-ounce bottles; by mail, 60c.

Royal Purple Lice Killer

This is entirely different from any lice killer on the market. In order for you to understand the process of manufacture of this lice killer, you will have to send for one of our booklets, as we give you a full history of it, there. It will entirely exterminate lice on fowls or animals with not more than one or two applications. It smothers them. Price 25c.; by mail, 30c.

Royal Purple Disinfectant (Sheep Dip)

In this line we give you the largest value for the money of any disinfectant on the market. A tin containing 1 3-8 qts. Imperial measure will cost you only 50c. Also put up in 25c. tins.

Royal Purple Roup Cure

Mr. Dulmage, the great breeder, of White Rocks, tells us that he has never used a Roup Cure that will give relief so quickly to hens suffering from Roup or kindred diseases. Our book tells you all about it. 25c. per tin; 30c. by mail.

Royal Purple Worm Powders

For animals. 25c. per tin; by mail, 30c.

26



SYNOPSIS OF DOMINION LAND REGULATIONS

ANY PERSON who is the sole head of a family, or any male over 18 years old, may homestead a quarter section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-agency of the district. Entry by proxy may be made at any agency, on certain conditions, by father, mother, son, daughter, brother or sister of the intending homesteader.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$3.00 per acre.

Duties—Must reside upon the homestead or pre-emption six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate 80 acres.

A homesteader who has exhausted his homestead rights and cannot obtain a pre-emption may enter for a purchased homestead in certain districts. Price \$3.00 per acre. **Duties**—must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.00.

W. W. CORY.

Deputy of the Minister of the Interior.

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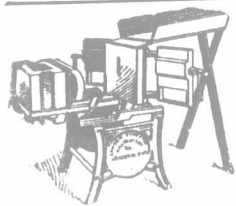
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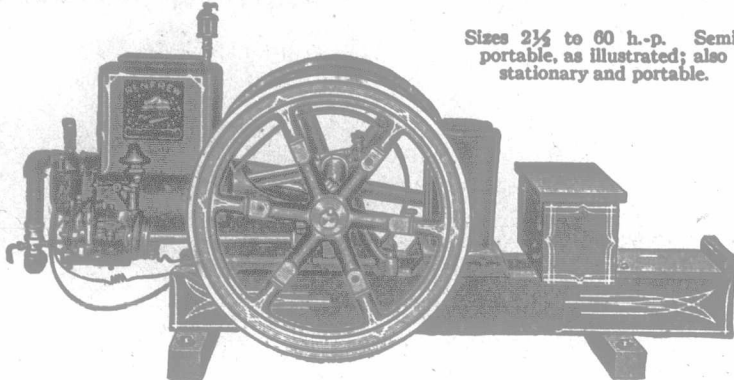
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"That's the slickest engine I ever saw"

So remarked an agent who has handled many different makes of gasoline engines in the last twenty years. "Why," he said, "that special governor of yours would make any man want the

Renfrew-Standard

gasoline engine if he had no other reason for buying it."

The governor that the agent spoke so enthusiastically about is, we might say, one of the principal features of the Renfrew-Standard engine. It is undoubtedly the most efficient governor yet devised—immensely superior to the old fly-wheel type. It controls the engine perfectly, allowing speed to be changed at will while engine is running, and automatically cutting off the supply of gasoline and electricity from batteries should engine exceed speed for which it is set. The simplicity and durability of this governor also makes the Renfrew-Standard engine especially adapted to withstand rough usage.

Other special features of the Renfrew-Standard are told about in our engine booklet. Send for a copy and learn what they are.

The Renfrew Machinery Company, Limited

Head Office and Works: RENFREW, ONTARIO

Sales Branches at Winnipeg, Man., and Sussex, N. B.

If you want a little engine, write us about the Gifford 1 1/2 h.p. This is, we believe, the most effective and reliable little engine made.

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Farm labor is scarce. Wages are high. All the more need for a **BARRIE ENGINE**. Soon pays for itself in time and labor saved. Grinds grain, shells seed corn, pumps water, cuts straw, threshes beans, saws wood, drives churns, separators and washing machines. Does many other things, too.

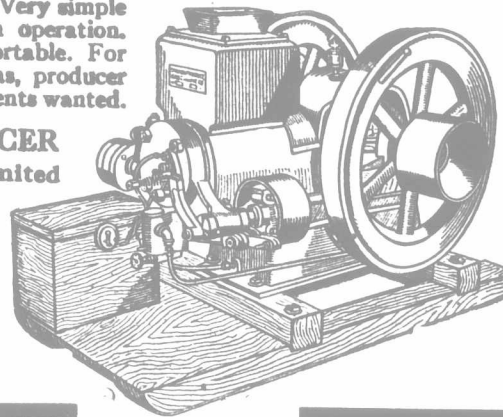
BARRIE ENGINES WORK LONG

hours without getting tired. Very simple in construction. Reliable in operation. 3 to 100 h.p. Stationary or portable. For gasoline, distillate, natural gas, producer gas. Write for catalogue. Agents wanted.

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The TRINIDAD-LAKE-ASPHALT
Ready Roofing
"Dead or alive?"

Which has greater strength and resisting power—a dead tree or a live one?

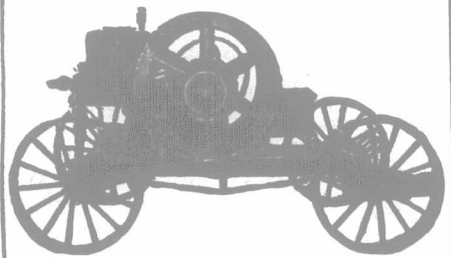
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Anybody can operate the simple "GOES LIKE SIXTY" Engine. Ready for work the moment you get it. Built strong and solid to last a lifetime. Will give long, unflinching satisfaction. Gas, gasoline or kerosene can be used for fuel.

Gilson quality gives full value for your money—dependable service, great durability, highest economy and perfect satisfaction; freedom from trouble, delays and expense.

Every engine **ABSOLUTELY GUARANTEED**. You can try this engine on your own farm before settling for it. You take no chances.

The "GOES LIKE SIXTY" Line has an engine for every purpose. All styles and sizes from 1 to 40 h.p.

Write for catalogue
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AMERICAN SEPARATOR

THIS OFFER IS NO CATCH. It is a solid proposition to send, on trial, fully guaranteed, a new, well made, easy running separator for \$15.95. Skims hot or cold milk; making heavy or light cream. Designed especially for small dairies, hotels and private families. Different from this picture, which illustrates our large capacity machines. The bowl is a sanitary marvel, easily cleaned. Shipments made promptly from **WINNIPEG, MAN., TORONTO, ONT., and ST. JOHN, N. B.** Whether your dairy is large or small, write us and obtain our handsome free catalog. Address: **AMERICAN SEPARATOR CO.** Box 1289, **RAINBOW, N.Y.**

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can be cured, not merely of the habit, but of its cause. The Arnott Institute has permanently restored natural speech to thousands—is doing it to-day. Write for full information and references to: **The Arnott Institute, Berlin, Ont., Can.**



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The "Bissell" Out-Throw has many features that have made the name "Bissell" famous in connection with Disk Harrows. It has plates of the correct shape. One gang is set slightly ahead of the other. The gangs cannot crowd or bump together and cause the Harrow to rock when you come to hard soil—a new feature in Out-Throw Harrows. The hitch is well back, the draught is light and there is no neck weight.

The machine in actual use is our best advertisement. No need to send special travellers to sell the "Bissell." We put our name on every Harrow. If you would like to learn more about Disk Harrows, send to Dept. W for free booklet of both out-throw and in-throw styles.

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DE LAVAL CREAM SEPARATORS

Merit Confidence

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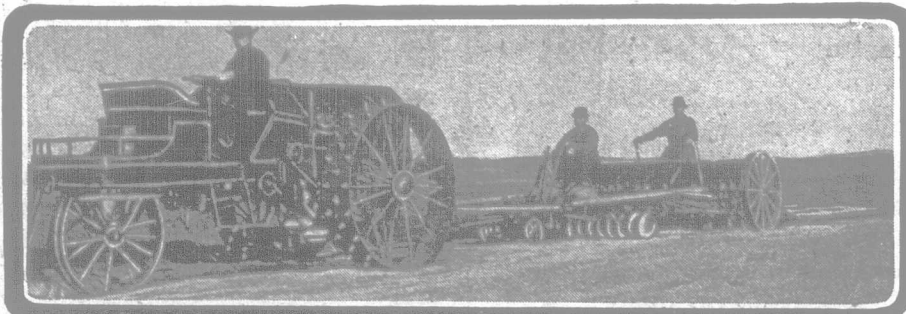
There is nothing the dairy farmer buys that is of as great importance to him as the cream separator, which SAVES or LOSES money in quantity and quality of product every time he puts milk through it, TWICE A DAY, 365 DAYS IN THE YEAR, and lasts from six months to twenty years according to the durability of the machine.



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Every man who knows what a cream separator is knows that this is true of the DE LAVAL, the original and for thirty years the "WORLD'S STANDARD" cream separator. Somebody may CLAIM as much for some other separator, but no buyer can possibly have equal CONFIDENCE in its being so.

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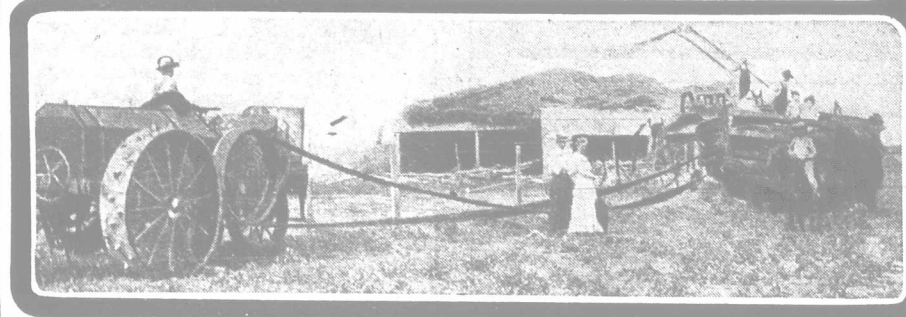
EVERY farmer realizes the importance of "quick action" at seeding time, and knows that delays at that particular time are very costly. The whole crop may be ruined through not being able to secure help or the sickness of or an accident to the horses.

The Hackney Auto-Plow solves all such problems satisfactorily. It will not only do the seeding when the soil is in the best condition, but also the

PLOWING, DISCING, HARROWING, HARVESTING, THRESHING, ROAD GRADING, WOOD SAWING, FEED GRINDING, and all other work where power is required. It is a strictly ONE-MAN machine, a tireless worker night or day, rain or shine, and there is no "hold-up by the hired man" for the farmer who has a Hackney Auto-Plow. Its successful performances in all parts of the country, in all kinds of soil, and under all sorts of conditions proclaim it the greatest labor-saving device for the farmer ever invented.

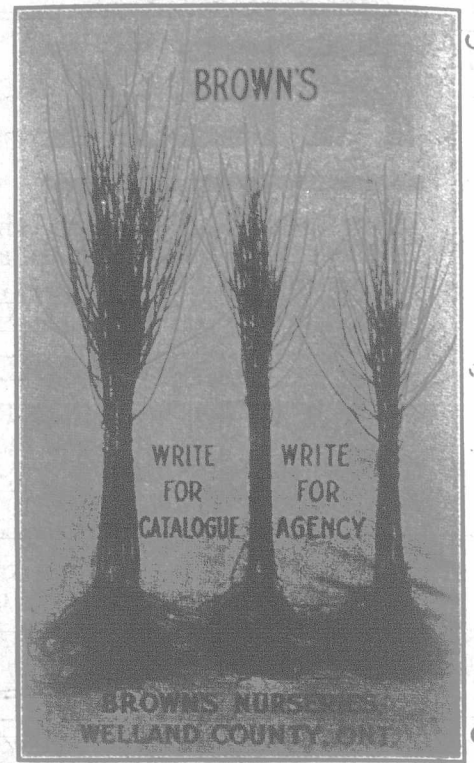


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Tell us if you want "help." Drop this office a line, and if necessary we will gladly come and see you and arrange details.

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114 King St. West, TORONTO

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The Farmer's Advocate and Home Magazine

PERSEVERE AND SUCCEED ESTABLISHED 1856

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

Vol. XLVIII.

LONDON, ONTARIO, JANUARY 30, 1913.

No. 1062

EDITORIAL.

Are we going to have any ice harvest? The grain harvest was precarious enough, but at this writing it looks uncertain whether there will be any chance at all to put up good ice.

Barn building and remodelling is one of the liveliest topics of this season. As usual "The Farmer's Advocate" has been on a still hunt for plans and ideas. It will pay intending builders to watch our columns closely.

Not only is the number of silos increasing rapidly, but there is a noticeable increase in the average size, more especially the depth, of those erected from year to year, except where a second silo is being provided for summer feeding.

A water system is defective if it necessitates keeping the stable temperature always above freezing. Very few Canadian stables are well enough constructed and insulated to render this possible at all times without unduly sacrificing ventilation. Such a stable might be built but seldom is.

In building a silo by all means get depth. The more the better, so long as it is safe to build and practicable to fill. We prefer one deep silo to two small ones. On an ordinary hundred-acre farm we would not entertain the idea of building a cement silo less than forty feet high, and would seriously consider forty-five. The capacity of that lower five feet is simply wonderful, and this well compacted silage at or under ground level is just the thing for summer feeding. It keeps better than the looser silage out of the top of a narrower silo. Only a thin layer spoils between time of discontinuing feeding in the spring, and recommencing in July.

With the innumerable and endless round of chores necessary on a stock farm, it is almost impossible for one man to do everything as he would like, and the temptation comes up to slight things. This temptation, if repeatedly yielded to, soon forms a habit of shiftlessness until one never has time to do anything right. On the other hand, let one insist on doing well whatever he undertakes, cutting down stock and reducing scale of operations, if necessary, and he then develops habits of thrift which save profits by avoiding loose ends. The idea that one has not time to take pains is about as insidious, and only a few degrees less mischievous than the idea some people have that they cannot afford to be honest. Neither is true.

The finest exhibition specimens are not always produced from the most successful or most profitable crops. The prize-winning Spy apples from our Demonstration Orchard in 1911, were grown on a diseased and dying tree. It produced large well-colored fruit, but not nearly so many barrels as healthy trees alongside. Similar to this is the experience of an Alberta farmer who bought wheat seed, sowed it on ordinary land, showed it at a local seed fair where it got nothing, being dirty, and sold for a dollar the bushel, which, when cleaned, won a world prize at Omaha. Exhibitions are all very well and serve an excellent purpose, but the most successful prize-winners are not always the most commercially successful farmers.

Neglected.

The winter months are really the constructive period in agriculture, especially in the matter of farm buildings, for it is during this period that plans for remodelling old buildings, or the erection of new structures, occupy the minds of the farmer contemplating improvements. Architecture is said to have a potent influence upon the generation, and there seems to be considerable truth in the statement, for are not a man's out-buildings, more than he often dreams, an indication of the personality of the man himself? whether or not the buildings have an appreciable effect upon the people of the age, they surely exert an almost unlimited influence upon whatever class of live-stock is housed therein. Our winters are of such severity that it is necessary, for the animal's welfare, that it be sheltered and fed. This means stabling is necessary, and stabling in the twentieth century should mean the installation of a practical, efficient and comparatively inexpensive system of draining off foul air from and diffusing pure air through these stables.

This artificial removal of confined air which, has been subjected to the contamination resulting from perspiration, admixture of gasses and foul odors, present in all tightly closed compartments where animals are confined, is known as ventilation. Ventilation is not a new word by any means. Farmers' Institute speakers, some of our best live-stock men, the agricultural press and writers without number, have been, for several years, putting forth every endeavor to spread enlightenment upon this subject. The old days, when it was thought necessary to exclude all fresh air from the stables in order that the animal heat given off by the stock could be retained for their comfort, and to keep the roofs dripping with the foul moisture from many lungs can never prove the ideal condition in which to keep stock. Consider for a moment that fresh air is just as necessary to the life of your live-stock as is food and water. It has been estimated that a cow requires twice the weight of pure air daily that she does of food and water combined. Can she get it in a tightly closed stable? This means for a cow weighing 1,000 lbs. live weight, approximately 200 lbs. of pure air daily. Air weighs about .08 lbs. per cubic foot. Think what this means to the cow. Mechanical skill of the present day has made it possible to construct doors and windows which fit. The door, with cracks literally large enough for the cat to go through, and the windows which filled only a part of the hole in the wall left for it, are not seen in the newer types of stable. Consequently, unless provision is made for it, fresh air cannot gain entrance to the stable in any considerable amount.

Disease lurks in the dust floating in the air of the poorly ventilated stable, and the moisture-laden ceiling and walls are a "paradise" for bacteria. Statistics show that bovine tuberculosis is far more prevalent in Northern and Southern countries. Why? Because the winters necessitate stabling of stock, and consequently they get less pure air. No other disease need be mentioned. Pure air is essential to health, ay, even to life itself.

How can it be had? All that is necessary is, in building new or improving old stables, to put in a sufficient number of inlets through or under the walls, and outlets through the roof of

the building. simply opening windows is not enough. It is necessary to get the pure air without causing draft. Windows with a proper means of deflecting the air upwards to break the draft may be used as inlets, but then outlets are necessary. Of course windows on opposite sides of the stable may serve as inlets and outlets according to the direction of the wind, but this plan causes drafts across the stable, and is not ideal. No window is a success as an inlet and outlet combined, and it is, by many, considered advisable to have a system of ventilation entirely independent of the window, whose primary object should be the admission of light.

Intakes through or under the wall, as the case may be, should be well distributed around the stable, and should be large enough, in total cross-section area, to allow at least 15 square inches per head of cattle or horses stabled. Outlets should not be less than 18 inches across, and should be placed near the center of the building, and open near the ceiling of the stable. Inlets should not be controlled. Unless the weather is very severe it is better not to leave such an important factor to a herdsman. Simply regulate them so as to prevent drafts. Outlets should be tight. Tongued and grooved lumber is good for this purpose.

Why this repetition of what may seem to be a hackneyed subject? Because, in many of our so-called up-to-date barns and stables, and those in almost every other particular first-class, ventilation has been neglected or ingored. Progress is being made, but not with the rapidity there should be. Give ventilation the consideration it should have in the new or improved stable.

Cows, Prices and Profits.

A prominent speaker at the Western Ontario Dairymen's Convention in Woodstock, deplored the fact that our cheese exports are declining while our butter exports have practically ceased. He argued, by implication, that we should have some active organization aiming to increase the number and improve the quality of our cows. To the alleged lack of such effort, and to the culling process which is taking place in many individually-tested herds, he attributed part of the decrease in exports. A second reason assigned was the lesser profit of dairying as compared with some other lines, a dollar per hundredweight for milk not being sufficient to render dairying attractive.

The latter argument nullifies the first. The law of supply and demand sends prices down as production increases. This is particularly applicable to the case under discussion, because any considerable increase in milk supply would have to be exported as butter, cheese or cream, and the price of this exported surplus would be governed by cheese and butter prices prevailing in Great Britain. Milk used to produce this butter and cheese for export could not possibly net the producer very much above one dollar per cwt. on the average, and often not that. Moreover, the moment we accumulate a surplus of butter or cheese for export, home prices, in most localities, drop to the export level, and so the price of milk to all patrons of cheese and butter factories would be fixed by what could be paid those producing milk for the manufacture of export products. Furthermore, the establishment of lower prices for milk at cheese factories and creameries would tend to keep down the price of milk and

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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cream for direct consumption. Nothing is more certain than that any noticeable increase in milk production beyond proportionate increase in home consumption would reduce prices and curtail profits. If then, prices are already too low, as stated above, how will the producer's interest be served by organized effort to increase the number of cows and enlarge production? Cheese factories are already paying every cent they can pay for milk, under present market conditions. The only hope of substantially increased prices for cheese milk is a relative decrease in total milk production as compared to demand. Of course, from the standpoint of men having capital invested in butter and cheese factories, the case has a somewhat different aspect, but even they could have nothing to gain in the end by encouraging farmers to enlarge milk production at unprofitable prices. We are not in the least alarmed by jeremiads about decreasing agricultural production. Half the time production is not really decreasing after all, but merely seems to be because rapidly enlarging home consumption absorbs a big share of what was formerly a surplus for export. Dairy Commissioner J. A. Ruddick, points out that the increase of two and a half million in population has helped to augment Canadian consumption of butter, cheese, milk, ice cream, etc., by thirty to forty million dollars' worth a year. He believes that, notwithstanding our declining exports, milk production in Canada has increased as much during the past decade as in any other ten-year period.

Anyway the situation is satisfactory from producers' point of view, and we hope will remain so. With efforts to improve quality and increase production per cow, we have every sympathy for that spells sound progress. With wholesale efforts to increase the number of cows we have no sympathy at all. Let supply and demand settle that. Supply and demand always have a way of working things out with better advantage to all parties concerned than could be effected by any system of human conception. Look to quality and individual profits. Let statistics take care of themselves.

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Dean's Dairy Drama.

Prof. H. H. Dean, of the Ontario Agricultural College, is original. Seldom a meeting of the Dairymen's Association passes without some startling new line of thought propounded by the redoubtable professor. Always it is entertaining, and often suggestive. At the recent Dairymen's Convention in Woodstock, he went, we should judge, about the whole length of his fertile imagination. He said if he were a millionaire, instead of a college professor, he would undertake to spread agricultural and dairy knowledge by employing, as agencies the moving picture show and the drama. Personally he would prefer the drama, where real persons, cows, appliances and products with suitable stage equipment "and all the necessary accessories of music, colored lights, comfortable seats, etc., which go to make strong impressions," would be utilized to teach agricultural and dairy lessons.

He then went on to detail the characters, from the farmer and his hired man who milk the cows to the English or Scotch consumer, and also the scenes, which ranged from the Canadian farm to the retailer's shop and the consumer's home. It was all very entrancing—thrilling. It made such a vivid impression on the audience that the official stenographer already has a play worked up in his mind.

One thing sure, there should be no difficulty in obtaining local color. The stage manager could secure cows with nearly all the shades of the rainbow, varying the breed to suit the district, thus appealing to local patriotism. Nor need he lack dramatic incident. An obstreperous brindle swishing her tail across the milker's face would be a real hair-raiser, to say nothing of the opportunity for dialogue. If anything more sensational were required it might be provided by a scene showing someone, preferably a minister, teaching a young calf to drink. The milkmaid of course would be requisitioned to supply romance, and altogether the first act should pass off quite successfully.

Just how the playwright would make out with the next two acts we are not quite so clear. There is nothing especially dramatic about a stack of boxed cheese, while in the consumer's home a good deal of dialogue would be necessary to keep things interesting. There is not much romance, tragedy or humor in a polite request to "pass the cheese."

The admission fee to this enthralling play was not settled by the author of the idea. It would be distinctly "infra dig." to travel about the country begging attendance, and we are not sure how much people would be willing to pay. Then again, we are not sure just how much effect the "strong impressions" would have in persuading people to test their cows and provide summer silage. Nor are we clear how the desired lessons could be enforced. But, no doubt, Prof. Dean and Mr. Cox will work all these points out.

Nature's Diary.

By A. B. Klugh, M. A.

In the study of nature, the keeping of careful notes is of the utmost importance. An observation should not be regarded as complete until it is recorded in permanent form, and in such a way as to be readily accessible when needed.

In the field a writing-pad and a pencil should be carried, and notes made on the spot. A very good and cheap pad is Hinsdill's Scratch Book, No. 4020. From the field pad the notes may be transferred to two books. The first book may be termed the "journal," and in it general nature notes should be written from day to day. This "journal" will prove very interesting reading to its author in after years, and will be found to contain many observations which have completely passed from the memory. This style of recording notes would do very well as the only form of record, if it were not for the fact that after a few years the notes in it cannot readily be found when needed. Therefore, in the main line or lines of observation, a loose-leaf "ledger" should be kept. In this "ledger" a page should be devoted to each species, and the pages arranged according to the classification used. Thus in the "ledger" for bird notes, the first pages would deal with the grebes and loons, and the last with the thrushes. As a further aid in quickly locating notes little tabs, bearing the names of the families as (Fringillidae—the finch family) may be attached to the sheets on which the notes on each family begin, so that the tabs project. By using the loose-leaf system any number of pages may be added in any place required, and the notes are always in order. This type-writer paper makes the best leaves for the "ledger."

There is another little book which is very useful in bird study, and that is a monthly time-book. In this the bird's name is entered in the "name column", and the number seen each day entered under the date. Thus what is called a "migration record" is kept, which will show when the species first appeared, its commonness and the date of its departure. When a bird becomes common the letter "C" may be entered under the date, and "ditto" marks put under each succeeding day. If a flock too large to count the individuals composing it is seen, it may be recorded by the letter "F". If a bird is not common, but a good many individuals are seen on a certain day, then an "S" under the date will record the fact that several were seen on that day.

In observing birds a good field glass is a necessity. The best glasses are the prism binoculars or monoculars, but they are rather expensive. A field glass should be at least "eight-power." A telescope, while somewhat inconvenient to use, is often quite effective, and small ones are comparatively cheap.

To obtain near views of birds it is necessary to learn to do two things—to keep still and to "call." The great majority of small birds may be "called" by making a squeaking noise with the lips, much as one calls a dog. The "call" can often be improved by bringing the back of the hand against the lips while the squeak is being made.

There are several books which are useful for identifying birds in the field. Probably the easiest one to use is the "Color Key to North American Birds" by Chapman & Reid, in which the birds are divided into classes according to their color, and which contains small illustrations in color of all North American birds.

There is one point, in connection with bird study, which cannot be impressed too strongly upon the beginner in this fascinating pursuit, and that is to be absolutely sure of the identification of a bird before recording it. Far better no record than a doubtful one. Guess work has no place in natural science.

Government Assistance in Drainage

Editor "The Farmer's Advocate":

Your advocacy for the removal of the duty on ditching machinery should have the support of every one interested in the agricultural progress and developments of our province, and I sincerely hope that our Dominion Government may take immediate action and aid the farmer by allowing drainage machinery to enter duty free.

Even with its removal the cost of a machine is almost out of reach of the ordinary farmer, viz., \$1,400 to three times this amount at the factory on the other side. This being the case our Provincial Government might come to the help of the farmer, and assist him in some practical way to get his land drained by machinery, as it is next to impossible, in the great majority of cases, to get it done by hand.

As governments and corporations can usually borrow capital more cheaply than individuals, arrangements might be made whereby some capable persons, in certain districts, could be furnished with a suitable machine by the Provincial Department of Agriculture, they making all ar-

arrangements with regard to terms of payment, etc. I believe a number of these machines, operating in our counties, would be an inspiration and encouragement to our farmers, and perhaps help to stem the tide city-ward and west-ward, which, in the past, has been flowing so steadily.
Middlesex Co., Ont. W. S. LAIDLAW.

HORSES.

Stallion Enrolment and Inspection.

That there is a very general desire amongst those interested in horse breeding, for the Government control and regulation of sires, kept for public service, is according to Dr. F. C. Grenside, V. S. of Guelph, Ont. who delivered the following address at the Ottawa Live Stock Show, strongly evidenced by the fact that there is a pronounced movement on foot in all parts of the world, and particularly on this continent, for such action. It is significant that the chief source of this movement originated with the stallion owners themselves, for they, of all men, knew the injurious effects upon the horse industry of the indiscriminate use of sires.

Undoubtedly all know that we now have in this province of Ontario an act in force, called the "Stallion Enrolment and Inspection Act." Having accomplished so much, time will not be wasted if those who are interested in the horse industry, study this act from all stand-points so that a correct perception of it may be pretty general amongst them. There are doubtless those who think this an unnecessary piece of legislation, and are inclined to denounce it or be over-critical about its provisions and enforcement. There are doubtless others that are too optimistic with regard to the benefits likely to result from it, and look upon it as a panacea for all the ills that have been known to exist in connection with the horse-breeding industry. If a temperate, unbiased, and reasonable view is taken of it by one who has gone to the trouble to inform himself thoroughly as to the provisions of the act, first knowing the conditions it is sought to improve, he cannot but conclude that some good will result from its enforcement.

To those dissatisfied with it there is encouragement, in knowing that its provisions can be modified. Of the benefits likely to accrue from its enactment and enforcement not the least is the educational result.

It may first of all be explained that literally speaking the unsoundnesses generally considered as hereditary ones, are not in evidence as a rule at birth and possibly not for months or even years afterwards, so that it is not the diseases that are inherited but it is the tendency or predisposition to their development, that is handed down from parent to offspring.

It is interesting and important in studying this question, to endeavor to get a correct understanding as to what constitutes this tendency or predisposition to unsoundness in horses. Some good authorities take the view that some sires and dams possess a peculiar habit of body, scientifically called a constitutional diathesis which renders them liable to the development of some such unsoundness as ring-bone, spavin or side-bone. There is no way of pointing out or determining the existence of this constitutional peculiarity or tendency except the developed unsoundness.

It is worthy of note also in this connection, that the existence of a side-bone or spavin is not positive proof of it being inherited. These diseases sometimes result from accidental or exciting causes without any evidence pointing to heredity.

Personally I am a believer in the habit-of-body theory; but I am of the opinion, that the tendency to unsoundness handed down from parent to offspring is due to one or more of four predisposing causes, so that I divide them into four heads.

First, and most important, is defective formation; second, deficiency of tissue; third, defective quality of tissue; and fourth, temperament. The existence of any or all of these predisposing causes, is more or less apparent to the sense of sight, and the eye of the practiced horseman can as a rule detect their presence.

A few examples may be given to prove the correctness of these divisions. Take for example, ring-bone; the two formations of pastern in which it is most frequently observed are the long slender oblique pastern usually resulting from strain, when the high form of ring-bone is usually met with, and the low variety of that disease, when the disease involves the joint just at the coronet and usually occurs in the straight, coarse, upright pasterns, due to concussion, or laming during work. Solints are not usually included in the list of hereditary unsoundnesses although the tendency to them is undoubtedly transmitted from parent to offspring. Take the case of a horse that runs markedly and if he develops a splint or solints, they will usually be found on the out-

side of a shank bone, due to the fact that concussion or jar takes effect there instead of the inside of that bone, the usual seat of splints in a horse that does not toe-in. If a plumb line is dropped from a horse's shoulder it will pass down in a slanting direction across the inside of the shank bone, showing the centre of the line of weight, and will pass over the usual seat of splint. In some horses that toe-in markedly a line dropped in this way will pass down slantingly across the outside of the splint bone, showing that the direction of the line of weight is altered by formation. These peculiarities of formation are pretty faithfully handed down from sire or dam to the progeny and thus the tendency to some peculiar unsoundness may be transmitted.

Take as another example, what is called a Curby Hock. Though there may be no well defined curb there is the weak formation which gives the tendency to the development of curb on slight provocation. A curby hock may be described as one of small circumference at the lower part of the joint, or what is usually described as "tied in below" with the point of the hock dipped forward, and the tendon at the back of the hock not standing out prominently behind it.

Under the second division we spoke of a deficient quantity of tissue or what horsemen often refer to as lack of timber in the limb. Size is strength, other things being equal, so that disproportionate lack of tissue in the limbs is a source of weakness and unsoundness, all of which may be inherited.

The experienced horsemen know that disproportionately small feet seldom stand much wear and tear and remain sound. Small hocks and small joints generally are predisposed to un-

practical horseman must, we must admit that coarseness, or lack of quality, is by no means an unimportant factor in contributing to hereditary predisposition to unsoundness.

Temperament is the last of the four heads into which we divided the predisposing causes of hereditary unsoundness. Although it must be admitted that it has an influence, we look upon it as the least important of the four. The nervous horse that jumps and gets excited on slight provocation, the anxious horse that is always up in his collar and against the bit, are more taxing on the physical mechanism than easier-going horses. We cannot afford to quite ignore this question of temperament in selecting sires and dams, but if the legs and feet are well formed, have sufficient substance and are made up of a good quality of tissue, they will generally stand any taxing that may result from a high-strung temperament.

Stocking.

A tendency to swelling of the legs or "filling," generally called "stocking" exists in all horses under certain conditions. While the tendency is greater in heavy horses, light ones are by no means exempt. Horses of any class that lack quality, those whose legs are inclined to be meaty rather than hard and flat, are more predisposed than those of good quality. Of course, a swelling of the legs due to actual disease or injury is frequently seen in all kinds and classes, but we refer to the conditions when it occurs without apparent cause, and, while not generally considered serious, is liable to result in disease if it continue for any considerable length of time. It is due to sluggish circulation in the vessels of the extremities, but just why circulation in the limbs should become sluggish in so many cases is somewhat hard to understand. When horses that have been on pasture or at regular work are kept idle in the stable, when the weather becomes cold we conclude that the filling is due to lack of exercise, but the trouble frequently occurs without any appreciable cause. It is more common during early fall than at any other time, but in many cases persists during winter. Some horses are so predisposed to it that it is almost impossible to prevent it without constant attention and care. There are many predisposing causes, and, on the contrary (paradoxical as it may appear) the opposite condition—that is, an insufficient



Jeanne [2943] (87145).
Percheron mare; three years old. First in the open class at Guelph. One of several good mares in the sale of Dr. T. H. Hassard, to be held in Toronto, February 5th, 1913.

supply of food, often has the same effects. It is not uncommon to notice a poorly nourished horse, one generally out of condition, whose legs become filled during the night, neither is it seldom that we notice a well-nourished, well-fed, well-cared-for horse often the same way. When this abnormal condition is not the result of disease or injury, the swellings become dissipated after the animal is exercised for an hour or two. The swellings are due, as stated, to sluggish circulation. Exercise increases the circulation and stimulates the absorbents, and the exudates that caused the filling are absorbed and carried away, thus reducing the enlargements. While the condition may occur under well-advised and apparently careful treatment, poor attention and faulty digestion are fertile causes. Horses whose bowels are somewhat constipated, though not sufficiently so to cause actual disease or visible distress, are prone to stock. Hence, preventive measures are advisable. When horses that have been at steady work and heavily fed on grain are changed to a period of partial or total idleness, the grain ration should be greatly reduced and some means should be taken, especially for the first few days, to give them some daily exercise. In other words, violent changes in food or usage should be avoided. On the other hand, when horses have been running on grass, or under other conditions getting little or no grain and change of conditions renders it necessary to feed grain, the change should be made gradually. We have on former occasions mentioned sudden changes of food as being very liable to cause acute diges-

tion. There is perhaps no defect of the hock joint which is more strongly predisposed to unsoundness than lack of size in that joint.

In addition to formation and quantity of tissue, "quality" is of vast importance in influencing the wearing ability of the legs and feet. Parents transmit with great faithfulness to the progeny defects in the quality of the horn of hoofs. Shaly, brittle hoofs are strongly predisposed to crack, developing sand and quarter cracks on slight provocation and giving rise to that very troublesome inability to hold the shoe tightly. Brittle hoofs are not necessarily coarse in fibre. Hoofs of coarse fibre lack the denseness of structure which generally contributes to toughness. Undue size of feet, low heels and flat soles, with a tendency to be easily bruised, are apt to be associated with a lack of quality in the horn structure. A horse with bone of a spongy character or lacking in density is deficient in quality. Such an individual is predisposed to inflammatory diseases of the bone, such as splints, sore shins, ring-bone and spavin.

The lack of quality in a horse is particularly well shown in the skin of his legs. The tendency to the development of cracked heels, stocky legs, wind-blows, and greas, is very evident on slight provocation. Sires deficient in quality are apt to transmit to their progeny what are called soft legs in which there is not only the inclination of the skin to swell up from little cause, but puffy sheaths of tendons, and boggy hocks are easily inflamed. If then, we accept the statements with regard to quality as it would appear that every

five diseases, but are now discussing them simply in regard to their influence upon the conditions under discussion. Whether horses be idle or at work, care should be taken to keep their bowels in a reasonably laxative condition. We do not mean that a condition of semi-diarrhoea should be maintained. A protracted state of this nature might induce the very condition we are trying to avoid. Most of us have noticed that stocking is not so common in summer time as in fall and winter, even though the horses are receiving practically the same treatment. This is largely accounted for by the fact that during the seasons when the grass is green, most horses, though not actually on pasture, in one way or another get an occasional mouthful of grass, which has the laxative effect noted. At seasons when this laxation cannot be obtained a substitute should be provided, and this substitute should not be drugs. The too common idea of teamsters and owners, that a periodical dose of medicine is necessary to keep horses right is irrational and harmful. A healthy horse requires no medicines, hence the main point is to keep him healthy. Hay and oats are of course the foods principally depended upon to produce the necessary vigor, muscular, respiratory and nervous, but something else is required to satisfy the appetite and digestion. This "something else" should be both tasty and laxative. Nothing better can be given than a few roots, an ordinary-sized mangel or turnip or a couple of carrots given once daily, preferably at the mid-day meal. If large quantities of roots are fed to working horses the laxative effect becomes too marked, and there are some horses which cannot be given them even in small quantities without that result; such horses of course must be treated accordingly. When roots cannot be procured, or in cases where they cannot be fed without undesirable results, a feed of scalded bran, a couple of times weekly, or a little linseed meal once daily, or even a little raw linseed oil mixed with the food once daily, will give good results, or where it is not expedient to feed anything but hay and grain, a feed of boiled oats or a little boiled barley will probably answer the purpose. In few words it is, in most cases, necessary to make some slight deviation from dry hay and oats in order to keep the bowels acting properly. It may be hard to understand, and some will deny the fact, "that horses fed on rolled oats are not so liable to either digestive or leg trouble as those fed on whole oats." The writer has not fed a bushel of whole oats in 20 years and while his horses have during that time been solely used for road or saddle purposes, he has never owned a horse that was washy or would purge when driven.

A few words about curative treatment. Where a horse has reached that stage when he "stocks" it is good practice to act upon both bowels and kidneys. A purgative of 6 to 10 drams of aloes (according to size of patient) and 2 drams of ginger should be given. After the bowels have regained their normal condition a dessert spoonful of saltpetre should be given in damp food once daily for 3 or 4 days to act upon the kidneys. Then the animal should be fed as indicated and given regular exercise. Hand-rubbing the legs frequently gives good results and if stocking persists the application of woollen, or other bandages that are slightly elastic, moderately tight, gives good results. The bandages can, if necessary, be left on all the time the horse is at rest. The slight pressure and warmth they supply stimulates the circulation and tends to prevent filling.

WHIP.

Breeding Horses for Profit.

Four points which the farmer must watch carefully in profitable horse breeding, according to John Gardhouse, Highfield, Ont., who gave an address on this subject at the Eastern Ontario Live-Stock and Poultry Show, recently held in Ottawa, are breeding, feeding, producing feed and getting work from the colt.

To make satisfactory returns it is necessary to breed the horse, which is likely to be grown up to saleable age, at least cost, and the one which is the best seller on the open market. Mr. Gardhouse believes the average farmer can make more money out of the Heavy Draft horse than out of any other class, because there is a lasting good demand for this kind of horse, because the mare best suited to produce this type of horse is just the type of mare best suited to do the work on the farm; because the colt, from such a mare, is so constituted as to be able to earn his keep during a great portion of his growing period, and because the average farmer has not the time nor the experience necessary to most efficiently raise, train and break the highest and most valuable type of light horse. Surely these are four sound reasons. There is a better and steadier demand for the heavy draft animal than for the common type of work horse, and the average farmer can produce nothing but the comparatively common class of the latter type. It

is necessary to get a certain amount of work out of the brood mare, and undoubtedly the drafter is the most valuable for this purpose.

Mr. Gardhouse believes that better results invariably follow the judicious working of the in-foal mare. This judicious working of the brood mare and the growing colt reduces very perceptibly the cost of producing feed which, in these days of high prices, means much in the net returns of raising colts for sale. Under present conditions Mr. Gardhouse believes that every average hundred-acre farm should raise, at least, three heavy draft colts every two years. This means one team of good heavy-draft brood mares to each 100-acres. These mares need not necessarily be pure-breds of any of the well known breeds, but should, at least, be a good type of the breed of which they are grades, be free from all hereditary unsoundness or diseases and should be mated with



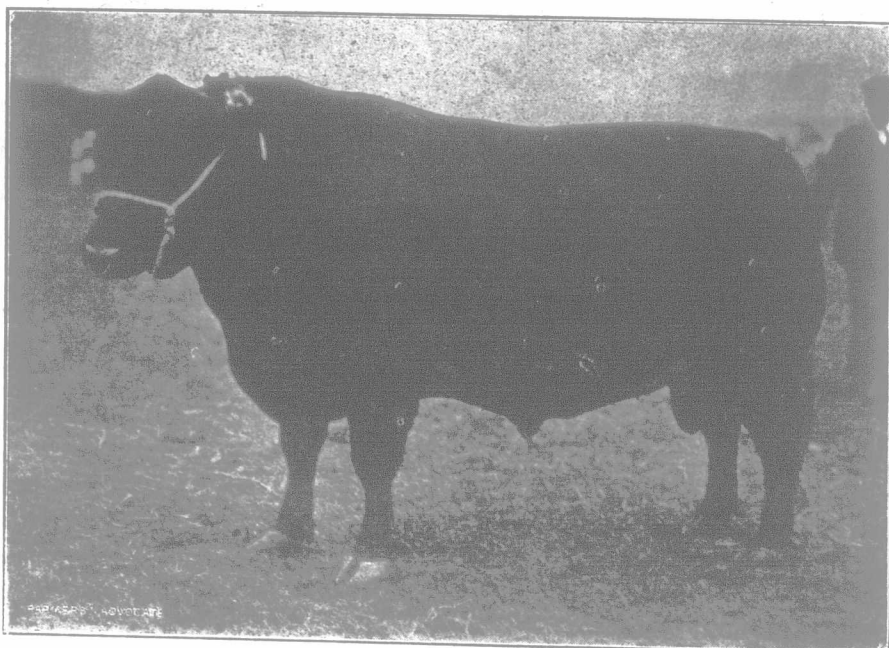
Tehidy Robin Hood.
A winning Shorthorn bull in England.

the best sire available, and which is especially strong in the particulars in which the mares are weak. If such a system were followed on every 100-acre live-stock farm in this country, what an improvement there would be in the general standing of Canada's horse breeding.

Curing a Puller.

Editor "The Farmer's Advocate":

In reply to the question in regard to the over-draw reins for a puller, I would not advise my farmer friend to go to the trouble and expense of getting them. If you have a puller, first clean



Aberdeen-Angus Bull "Metaphor."
Champion of the Royal Show in England, 1912.

the stall of all straw and manure to prevent him getting a foothold. See that your manger is good and strong. Get a good stout rope and tie him around the neck (tight enough just to allow him to breathe). Now get out of his way and let him pull till his heart's content, and I can assure you he will soon get sick of it. I have cured an exceedingly bad puller in this way. Muskoka, Ont.

R. V. KNIGHT.

One of the worst defects of conformation in a horse according to Dr. F. C. Grenside, V. S., of Guelph, Ont., is toeing-out very badly.

The Farmer's Horse.

While the farmer who can afford it may wisely keep for the use of himself and family a roadster or carriage horse, or a general-purpose animal, it will be generally admitted that the heavy draft team is the best suited for farm work and the drawing of heavy loads. The demand for this class and the high prices available for them in the market render it most profitable for the farmer to breed and raise the heavy horse. For size and weight the Shires as a rule take the lead and, but for the extreme hairy-leg fad prevailing in the country of their origin and apparently favored by the judges at leading shows there, the Shire would be the ideal heavy-draft horse. Given the clean flat bone, and sloping pasterns and moderate

amount of silky hair on the legs of up-to-date Clydesdales, the Shires would no doubt win the competition for heavy drafters. The need for further improvement in this particular is evidently being acknowledged by many of the Shire breeders in England, as evidenced by discussions in the farm journals in the Old Country, protesting against judges' awards being largely based on the quantity of hair carried on the legs. It is beyond dispute that the Shire has vastly improved in the last decade in the feet and joints, and if breeders but turn their attention to improvement of bone, ankles, and quality of feather, rather than quantity, there is no reason why they may not produce the ideal drafter.

The Clydesdales have won popularity and made good in Canada, as in their native land, and have been largely imported and bred throughout the Dominion, giving general satisfaction, but are evidently likely to have strong competition for favor in the Percheron breed, numerous importations of which have been made to Canada within the last year or two, making a favorable impression as a useful and efficient farm horse, with strong back, clean limbs, and good temper. The question of how they will cross with the general classes of mares in the country remains to be tested, but judging from their success in that respect in the United States and the splendid showing made at the leading shows in that country it augurs well for their future record in the Dominion.

The prospect for a continued active demand and good prices for heavy horses indicates that our farmers may find the breeding of this class of stock among the most profitable if judiciously managed.

The attention of horsemen is particularly drawn to "Whips'" observation, in this issue, that horses fed on rolled oats are not so subject to digestive or leg trouble, as those fed on whole oats. He adds that he has not fed a bushel of whole oats in twenty years, and has never owned a horse that was washy or would purge when driven. Whip is an experienced veterinarian and horseman, habitually careful in his statements. If his experience on this point is general, the matter is of great importance. What say others?

Countless crimes are committed in cow stables. The lives of thousands of children and of some grown people as well have been sacrificed by carelessness in milking and handling milk. Be tidy; be clean; and keep the cows so.

The price of hogs this year is something like business. How they kept so low last winter was a puzzle.

LIVE STOCK.

Why Canada Should Produce Beef.

A few points from an address by Robert Miller, of Stouffville, Ont., at the Ottawa Live-Stock and Poultry Show:

Canada's population is increasing rapidly, but statistics prove that her beef cattle are decreasing in numbers.

It is absolutely necessary for every farmer to keep cattle of some kind.

We have a growing home market. Two years ago market quotations showed choice export cattle to be worth from one to two cents per pound more than butchers' cattle. To-day very few export cattle are offered at all and the top of the market is reached for best butchers' cattle.

Export buyers cannot compete with the prices being paid for cattle for home consumption, as prices paid in Great Britain do not leave them sufficient margin to pay them to ship these.

Beef raisers make profitable returns in Great Britain on much high-priced land than that being farmed in Ontario, but on land no better for beef production.

Because our land is less valuable our feed is produced at smaller cost.

Many farms are becoming less productive year after year. Beef raising would check and overcome this loss.

Good live stock is necessary to change the raw material produced on the farm into a marketable product at a profit.

We must supply food for the people, and there is none better than first-class beef.

There is sure to be a growing demand for good beef cattle, and to the man favorably situated for producing them, nothing could be more profitable.

Tuberculin Testing in British Columbia.

In a recent issue of a Canadian contemporary there appeared an editorial criticism of the new Dominion regulation relating to the tuberculin testing of pure-bred cattle received for shipment to British Columbia. The article appeared to be somewhat misleading, and the writer apparently assumes that this is the first step taken to eradicate tuberculosis from the herds of British Columbia. A brief resume of work already done would not be amiss.

We beg to state that the regulation in question was not "recommended at the instigation of the veterinary profession of the Pacific Province." At the request of the farmers of the Province, the Provincial Department of Agriculture began the work of eradicating bovine tuberculosis in 1909, and consistent efforts have been put forth ever since that date. The progress made has been even greater than was anticipated by the most sanguine, and it is expected that within a few months the disease will be practi-

cally eradicated. Diseased animals are slaughtered, and remuneration made to the owners to the extent of one-half of the value of the animal. The maximum valuation, however, is limited to \$75 in the case of a grade animal, and \$150 in the case of a pure-bred.

Looking at the situation from all standpoints, we cannot believe that an unprejudiced person can see any injustice in the regulation. Surely the farmers and stockmen of British Columbia have the right to purchase healthy animals. Furthermore, we believe that, indirectly, the regulation protects the breeders in other provinces. Should a farmer of British Columbia purchase an expensive pure-bred animal, and shortly after have it condemned for tuberculosis, neither he nor his neighbors would be likely to purchase another from the same source.

We sincerely hope that in the very near future the regulation will be amended to include all animals shipped into British Columbia except those brought in for immediate slaughter.

Quoting from the editorial: "This regulation strikes at the very foundation of this (inter-provincial) trade, and, if allowed to remain in force, will deal a death-blow to live-stock trading between the different provinces." Surely not. We do not believe it is fair to the live-stock industry of Canada to insinuate that in any part of the Dominion there are not enough animals free from

tions, and our inspectors give instructions as to how the sanitary conditions may be improved.

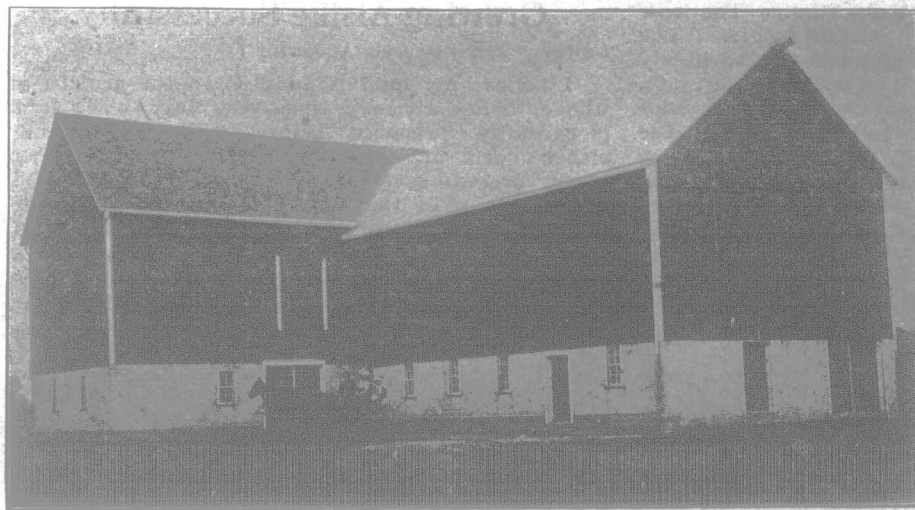
In conclusion, we would venture the opinion that, in addition to giving protection to the British Columbia farmer, the new regulation will stimulate trade between this province and the other provinces of the Dominion. Furthermore, it will lend encouragement to the breeders in other provinces who have been keeping their herds free from the disease, and, in general, should encourage the fight against bovine tuberculosis. We are convinced that the new regulation will be welcomed by all progressive cattle-breeders as an important step in the right direction, and trust that what British Columbia has been able to accomplish may serve of value to the other provinces, indicating, as it does, that bovine tuberculosis may be successfully combated.

W. T. McDONALD,
Live-Stock Commissioner.

THE FARM.

"L"-Shaped Barn for 100-Acre Farm.

The accompanying illustrations show the exterior appearance and basement and upper floor plans of a barn in satisfactory use for a couple of seasons on the farm of Alonzo Pearson, Middlesex County, Ont.



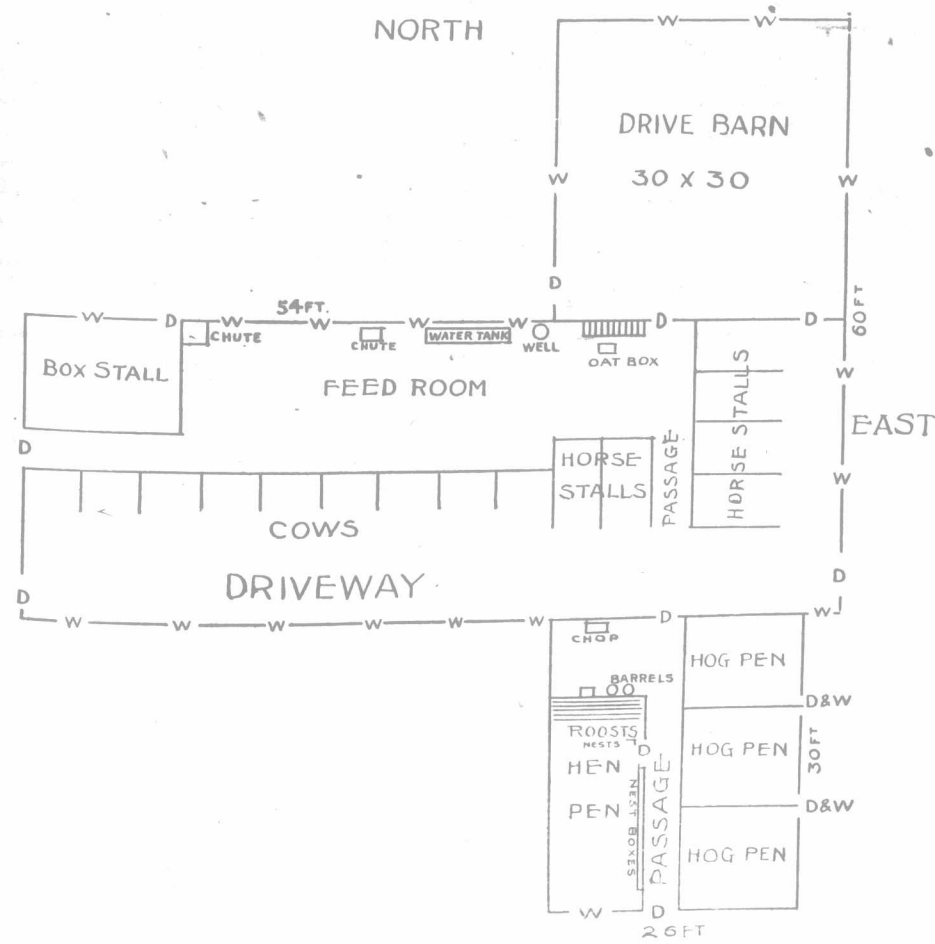
A Handy L-Shaped Barn.

Property of Alonzo Pearson, Middlesex Co., Ont.

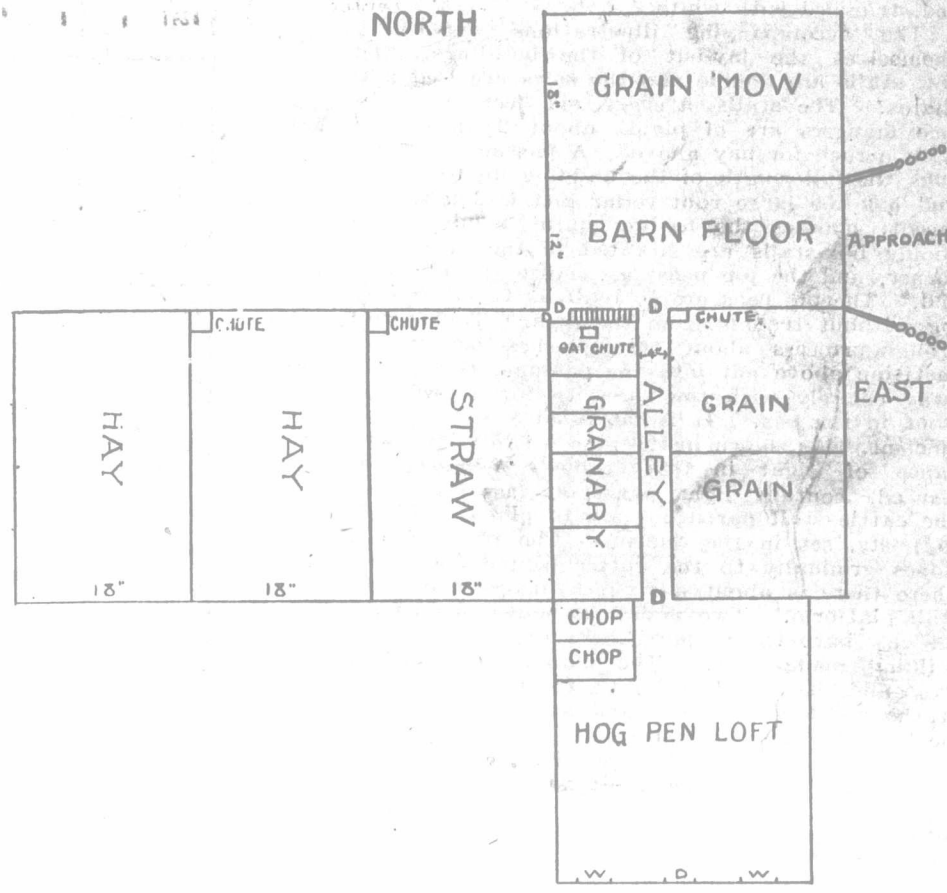
The accompanying illustrations show the exterior appearance and basement and upper floor plans of a barn in satisfactory use for a couple of seasons on the farm of Alonzo Pearson, Middlesex County, Ont. The "L" type of construction has features of convenience that commend it to many, being often especially advantageous in case of joining two old barns together, rather than making a wide structure in rectangular shape. The large doors at either end of the stable passage way and entering into the drive-shed are about eight feet in width to admit of a team passing through in clearing out the manure. The smaller doors are five feet in width. The large doors are hinged in the center, so as to fold together in being swung open, which makes the strain of weight less than in case of a wide door all in one piece. The basement windows are upright in style, consisting of eight lights 8 x 10 inches each, with two sashes to slide up and down like a house window. This, with the several feed-chutes, constitutes the means of ventilation. The height of walls, which are constructed of large hollow bricks, make the in-

tuberculosis to supply the inter-provincial trade. We agree that the disease is contagious, and on this knowledge we base our belief that the restriction of the movement of diseased animals is desirable.

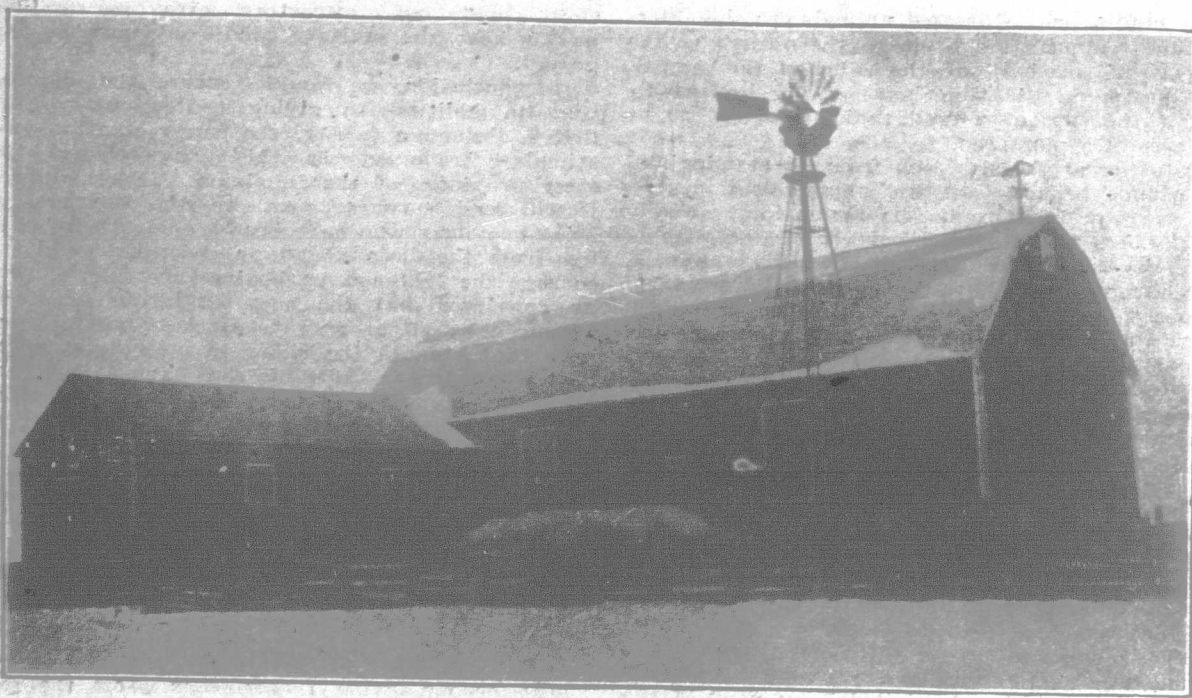
In addition to tuberculin testing, the Provincial Department of Agriculture has had in operation for several years a very complete system of inspection of cattle stables. All premises are graded according to the existing sanitary condi-



Basement Stabling, A. Pearson's Barn.



Upper Floor Plan, A. Pearson's Barn.



Mr. Jewell's Barn.

terior roomy and it is well lighted. The cow stalls are double and horse stalls single. The apparently rather large feed-room is put to handy use at times in the storage of corn, fodder, etc. The hog and hen house combined under one roof is a small story-and-a-half building joining the south-easterly part of main stable. A close board partition separates the hens from the hog pens, and both had access to separate yards. Large windows to the south give the hens plenty of sunlight. Through the loft above straw for hog bedding is received conveniently from the barn mow. The main features of the lay-out above and below are apparent in the plans.

Barns for One Hundred Acres.

The winter season, with its long evenings and chores, is the time in which most farmers contemplating improving their buildings plan the work of building during the coming summer. Barns and barn-plans are accordingly exceedingly interesting at this time, and the number of queries coming to this office at this season proves the statement. All farms are not of the same size, and conditions on no two farms are identical, consequently we purpose publishing a few plans, from which those who are improving their stables may get some few hints applicable in their case.

A very good barn for a one-hundred acre farm is that of W. E. Jewell, situated in Durham Co., Ont., and the plan of which is reproduced herewith. The farm of 105 acres Mr. Jewell operates on the mixed-farming basis, keeping considerable live stock. One barn in the shape of an "L," as shown, the main portion being 115 feet by 34 feet, and the horse barn 55 feet by 30 feet. The main barn is hip-roofed, and both are painted red, trimmed with white.

The accompanying illustrations explain in themselves the lay-out of the buildings. The cow stalls are double and the cows are tied with chains. The stalls average six feet in width. The mangers are of plank, about 2 1/2 feet wide, with a rack for hay above. A passage as shown runs the full length of the building up the center and has the large root cellar and feed mow adjacent, making the feeding quite handy. Two roomy box-stalls are situated in the north-west corner, and the pig pens as shown in the east end. The pig pens are so built as to allow feeding without trouble from the pigs. The cement trough projects about three inches beyond the partition above out into the passage, thus doing away entirely with the necessity for a swinging front in the pen. It is inexpensive and entirely efficient. As shown in the plan, there is an abundance of light in this stable. Windows, as marked, contain light panes of glass 8 x 10 in. The cattle stall partitions are of plank, fastened to posts, set in the cement. The rear passage slopes gradually to the gutter behind the cows, where there is about a six-inch drop from the stall platform. Two doors, as shown, lead from the cow barn to the horse barn, which is an old building made over. The plan shows the feed room and the stalls, including the two box stalls in the south end. Hay and feed are stored in the loft above. The barns are both placed upon cement block walls, plastered inside, and eight feet high. The floors are all cement.

There are two 14-foot drive-floors in the barn, with bays on either side and in the center, and the granary in the center. This is a very tidy set of buildings for a 100-acre farm, and lacks but one thing—a system of stable ventilation.

Growing Alsike Successfully.

Editor, "The Farmer's Advocate":

I believe my land is adapted to the growth of alsike, being a heavy limestone clay. The land is carefully prepared before seeding. Then on either corn or root ground I sow with either barley or oats seven lbs. per acre of the best seed procurable. In the fall I pasture the alsike before the frost comes, and roll early in the spring.

When the seed is ready to cut I allow it to stand a few days then cut with a reaper. The reaper sets the bundles off with heads up, so that a shower of rain causes very little, if any, damage. I do not turn the alsike after rain if possible to avoid it, simply lift the bundles and allow the air to pass under them. The alsike is drawn in as dry as possible, and threshed the last of September. The seed is sold to the buyer just as it comes from the clover roller.

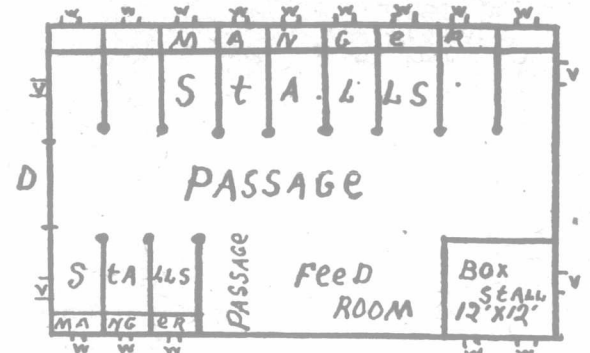
Victoria Co., Ont. WAITER E. CURTIS.

Another correspondent writes on the same subject, that to grow alsike the land must be clean and strong. To get this he prefers a bare summer fallow the year previous to sowing alsike, or at least a good hoed crop with manure. He does not believe it possible to get the land too strong, citing a case where he sowed the crop after a grain crop and also after a summer fallow, the latter being a great success while the former was a failure. He sows from six to seven pounds of seed per acre, and prefers barley as a

nurse crop, although he has had good success with some other grains. A self-rake reaper is used for harvesting the crop. This machine leaves the crop in such a condition that it does not hold the rain, and even last season this correspondent did not have to turn his alsike to get it dry. The seed was cleaned before selling. This man had 190 bushels the past season, which will net him a neat sum of money. There is money in clover seed.

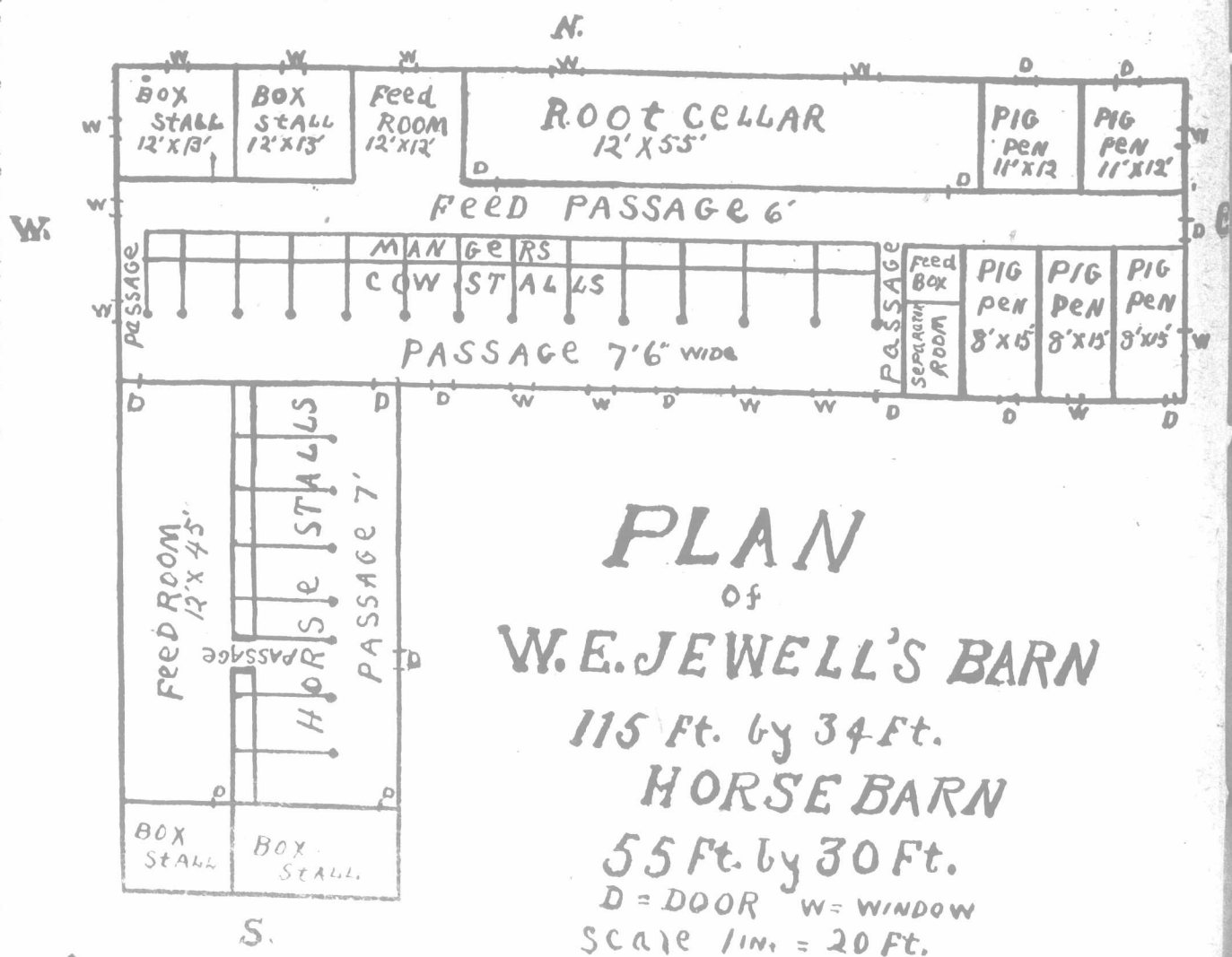
A Work-horse Barn.

On farms where several work horses are kept, it is advisable to have a fairly good barn for their comfort during feeding and rest hours. A barn of this kind may be seen on the farm of Col. Sir Henry M. Pellatt in Ontario County. This barn is hip-roofed with a large hay and straw loft above, and is 58 feet long by 35 feet wide. A passage twelve feet wide runs down the center of the barn and, as shown in the plan, there are nine stalls on one side and three on the other, the remainder being utilized as a feed room, a passage and a box stall for ailing horses. There is a ten-foot double door in the south end of the passage, permitting a team to be driven in before being unhitched. A square window, 2 feet by 2 feet, is situated directly in front of



Sir Henry M. Pellatt's Work-horse Barn.

each horse, and ventilation is secured through two small square ventilators in each end of the stable, which works on the same principle as a furnace register. Each horse stall is nine feet long from the manger to the end of the heavy plank partition and six feet wide. This gives plenty of room for the horse's comfort, and ensures no injury from kicking. The manger edges and grain boxes are covered with galvanized iron to prevent the horses from chewing them, and the hay mangers have a plank bottom some little distance from the cement floor, which is covered under the horses with heavy plank. The box stall is twelve feet wide, and is to be utilized as a hospital. A part of this barn shows in the illustration, on another page, of the large barn and implement shed.



A Large Cattle Barn.

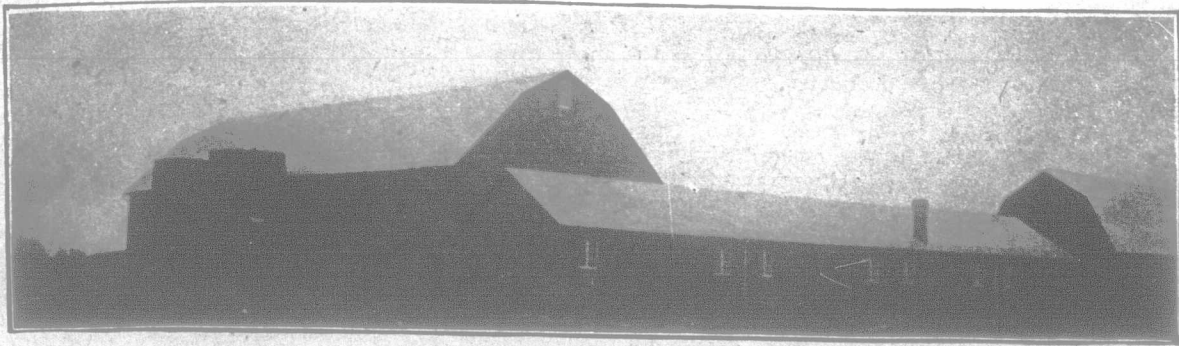
A large stock farm requires a large cattle barn, and such is the barn situated on the 560-acre farm of Col. Sir Henry M. Pellat in Ontario County, Ontario. This barn is 160 feet long and 52 feet wide, and the stable is devoted entirely to cattle, as shown by the plan. The floor is of cement, as are also the walls. There are, as shown, 78 single cattle stalls, where the cattle stand tied with stanchions facing the light. The passage behind the cows is 6 feet wide, those in front 5 1/2 feet wide. Mangers are of cement, with a rounded bottom to prevent dirt sticking in the corners. They are about 3 feet wide on top and 2 feet 6 inches high in front. They are washed out regularly with water

from alfalfa. Having six acres of corn that could not be got off the field on account of the wet in time to put in silo, I cut about four acres of alfalfa and stacked at cutter the same day. The next day we filled the silo, keeping one man on stack to fork the alfalfa on to the corn as it went through the cutter at the rate of about one ton of alfalfa to six or seven tons of corn. There were four men in the silo all the time tramping and the silage is turning out in perfect condition. We opened the silo, which is 14 x 30, on Nov. 10th. There were about four inches of waste on top. After that we did not lose one pound; there was not a mouldy spot in it, and the cattle seemed to relish it even better than the corn alone. I consider that the two articles mentioned have more than paid for the subscription

advantage in the month of July on a summer fallow, providing there is sufficient moisture for good germination. This is a good system to follow, providing the land produced a crop of grain or was a sod in the year previous to the sowing of the alfalfa seed.

It is nearly always wise to leave the alfalfa undisturbed the first autumn. If there are weeds, however, which are likely to go to seed, or if the crop is so heavy that there is danger of smothering in the winter, a mowing machine can be run over the field so as to cut the tops of the plants, which could lie as a mulch on the field.

The alfalfa should be cut just as it is starting to blossom, and great care should be exercised to cure the alfalfa so as to retain the leaves.



A Large Cattle Barn.

Showing also implement shed and part of horse barn.

and the cows are watered from them. The whole is equipped with feed and litter carriers. Box stalls of good size, as seen by the plan, are situated on the north side and east end. A root cellar is conveniently placed between two feed rooms, each leading to a cement silo 16 feet in diameter and 30 feet high, which are placed one each side of one of the barn approaches, as seen in the illustration. Ten windows are placed in the south side, three in the east end, seven on the north side, and two in the west end, ensuring plenty of light, as they are 3 feet by 4 feet in size. They are hinged so that the top half may be let down to admit fresh air, but there are no ventilation outlets. The drop behind the cattle is eight inches and the gutter is 18 inches wide. One of the calf stalls as shown has a manger which projects into the passage. This is fitted with galvanized partitions, which may be pulled up by weights so as to be out of the way when cleaning the mangers. —All fittings, including stall and box-stall partitions, are metal. Study the plan carefully, as it has some very good features.

of the paper alone, and wish you a very prosperous New Year. I might tell you more of the benefits I have received from reading your paper. I might mention that I took first prize in farm competition for the best kept farm in the county, the success of which I count to "The Farmer's Advocate" and other agricultural papers Wright Co., Que. George Riley.

Time and Method of Sowing Alfalfa.

Under average conditions in Ontario, said Prof. C. A. Zavitz, of the Ontario Agricultural College, discussing alfalfa in a recent address, the seed should be sown at the rate of about twenty pounds of seed per acre, and the seeding may take place at any one of three different times of the year as follows:

1.—Alfalfa seed may frequently be sown on winter wheat in the early spring either on the old snow or on fresh snow of one or two inches, and no harrowing or cultivation is necessary. When this method is followed the soil should be free of grass and weeds, and the wheat should not be very thick on the land.

2.—On a suitable seed-bed, and as soon as the land is sufficiently dry in the spring, alfalfa seed may be sown from the grass seed box placed in front of the grain drill. About one bushel of barley or spring wheat per acre sown from the tubes of the drill makes a very good nurse crop. After the seed is sown, the land should be harrowed lightly. This method usually gives very good results, providing the land is in a good state of cultivation, and is in a clean condition.

3.—Alfalfa may usually be sown alone to good

Growing Alfalfa on Loamy Soil.

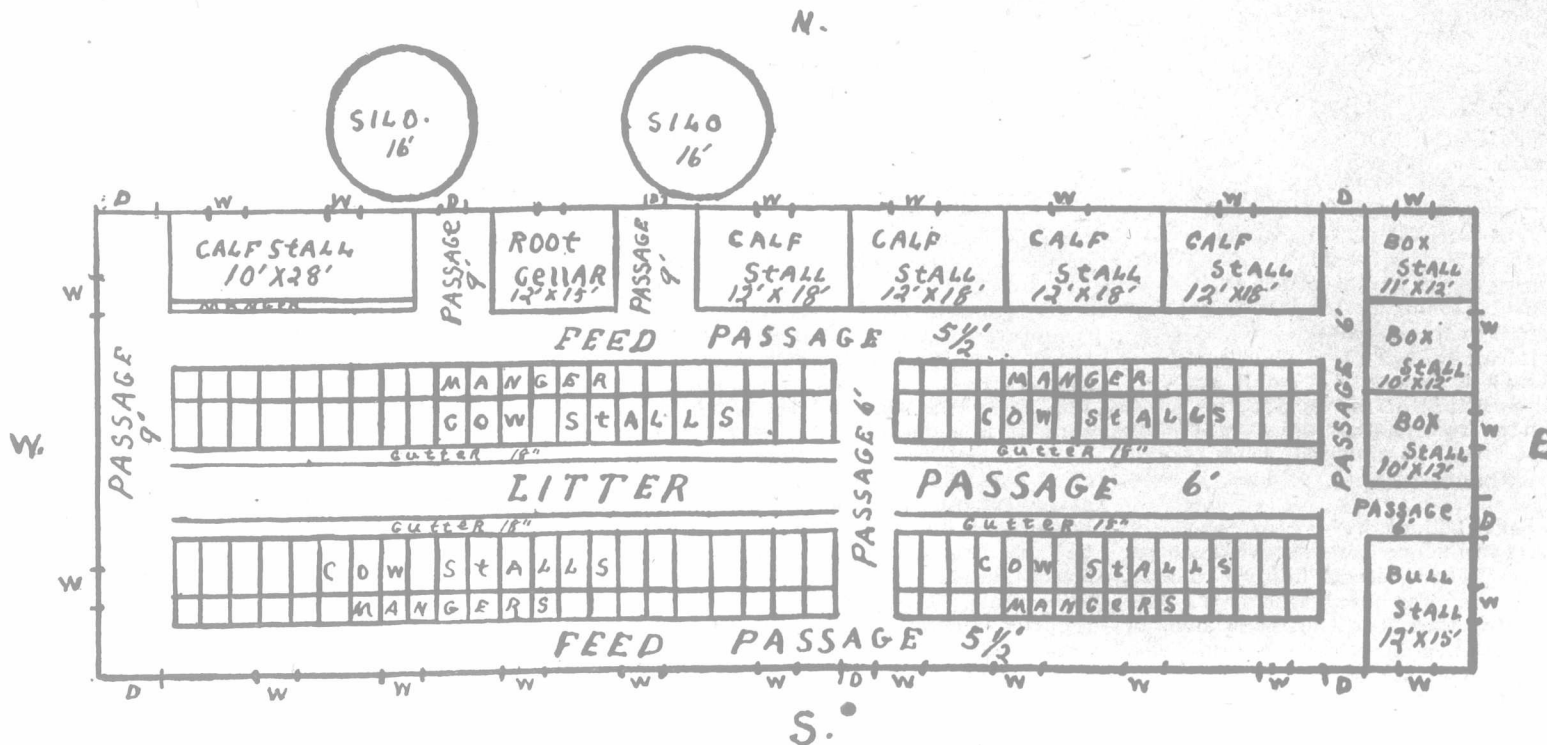
In the frequent addresses upon alfalfa growing which he is called upon to make, Prof. C. A. Zavitz, of the Ontario Agricultural College, continues to emphasize strongly the importance of securing a hardy strain of alfalfa for sowing under Canadian conditions. While the common alfalfa produced from Montana or European seed often gives excellent results under particularly favorable conditions—as, for example, on hard-clay hillsides—under less favorable conditions it frequently kills out in a short time, its place being taken by blue grass. On loamy soil this very commonly occurs. Time after time we have seen alfalfa on rolling fields kill out first in the hollows, then on the loamy crowns of the knolls, while on the clay slopes it would last ten, fifteen, or twenty years. At the Western Dairy-men's Convention in Woodstock lately the point was brought out that many farmers in Oxford County have experienced difficulty in maintaining a good stand of alfalfa. No doubt, the loamy character of Oxford County soil has considerable to do with it. Choose clay hillsides for alfalfa. Why this is so we cannot say, but that it proves true about nine times out of ten in Ontario, we know by experience and wide observation. This is not to admit the unwisdom of sowing alfalfa on other soil than clay, because if we had no clay we would try it on almost any kind of well-drained land—first getting the land very clean and being careful always to leave a big top for winter protection. Leaving the third crop of a season uncut and ungrazed will often preserve a stand successfully through the winter. If one will then, on summer-fallowed land, sow alfalfa alone in July, choosing a hardy strain, he should have good chances of profitable returns. It is well to have the field enriched with manure applied for a previous hoe crop. But beware of using dirty manure just before sowing the alfalfa. Inoculation is worth trying where one is sowing alfalfa for the first time on a farm, since it costs very little. If you still fail, try again, using lime and, perhaps, phosphorus. Do not give up. Keep on trying till you get on to the know-how.

"The Only Paper."

I have taken your journal only one year, but I am highly pleased with it, and my wife thinks it is the only paper. Waterloo Co., Ont. F. Brown.

Mixed Corn and Alfalfa Silage.

Editor "The Farmer's Advocate": Please find enclosed P.O. for \$1.50, subscription for "Farmer's Advocate" for 1913. Might say that I take great pleasure in reading "The Farmer's Advocate," particularly the practical part of it, and am indebted to the publishers for at least one very good contrivance—viz., the hood and pipe for distributing ensilage corn in the silo. I procured the galvanized iron and made the pipe according to directions in "The Farmer's Advocate," and it certainly worked to perfection. I also profited by another article on making ensilage



Sir Henry M. Pellat's Cattle Barn.

THE DAIRY.

The Cause and Prevention of Fishy Flavors in Stored Butter.

An address given by Dr. F. C. Harrison, to the Western Ontario Dairymen's Convention.

RESUME OF LITERATURE ON FISHY-FLAVORED BUTTER

The fishy flavor of butter has been known for a number of years, and in some of the more recent text books on dairying there are references to this particular taste. It is said to have been common in Denmark before the era of pasteurization, but, so far as I can ascertain, the first reference of importance occurs in the Colonial Dairy Review, compiled and published by W. Weddell, of London, England. About 1900 it is stated that much Australian butter sent to England had a pronounced fishy flavor that was very objectionable and which caused considerable depreciation in price. In 1901 the New South Wales dairy expert, M. A. O'Callaghan, found that the fishiness of Australian butter was due to a mould—*Oidium lactis*. By inoculating milk with this organism, fishy-flavored butter was produced, while the control portion of the milk produced butter of good flavor. By pasteurizing a portion of milk containing the mould, the pasteurized milk produced butter of good flavor, while the control transmitted the fishy flavor. O'Callaghan, therefore, recommended pasteurization at 168 degrees F., as that temperature readily destroyed the organism. Cleanliness in and about the dairy was urged to prevent the inoculation of the butter during the manipulation of the milk.

DuRo, however, writing in the *Milch Zeitung*, found that pasteurizing at a temperature of 158 degrees F. did not always control the fishy taste in butter.

In 1901 there were several discussions as to the cause of fishy butter in the creamery journals, notably one by H. G. Piffard, who attributed the flavor to algae (low form of aquatic life), commonly found in stagnant fish-flavored water.

In 1903 appeared a bulletin on studies upon the keeping quality of butter by L. A. Rogers, of the U. S. Dept. of Agriculture. Rogers took two lots of freshly canned butter, kept them at room temperature and examined them at frequent intervals as regards condition, bacterial content, etc., and in from 250 to 300 days the samples showed a disagreeable fishy flavor. An increase in acidity accompanied the change in flavor, and both changes in acidity and flavor progressed steadily after the disappearance of the micro-organisms, showing that the changes were not due to direct action of the living cells. Rogers thought that it was reasonable to suppose that enzymes of the milk, acting alone or in conjunction with the yeasts and the resulting enzymes were responsible for the so-called fishy flavor in butter packed in large but unsealed vessels.

Later, in 1909, L. A. Rogers, of the United States Department of Agriculture, published a bulletin on Fishy Flavor in Butter, in which he states that the trouble is widespread in occurrence, but most noticeable in newer dairy sections. It occurred at times in fresh butter made during the summer months, but usually appeared in cold-storage butter after it had been held over some time in cold storage, and even low temperatures did not prevent the development of the fishy flavor. He could not produce the fishy flavor by inoculation with the mould *Oidium lactis*. He did not try the variety with which O'Callaghan worked. No species or group of bacteria could be found peculiar to creameries having trouble with fishy flavor; the only peculiarity of the cream from farms producing fishy butter was the presence of very active lactic-acid bacteria. The experimental butters which became fishy were all made from high-acid cream. Overworking the butter made from sour cream at times produced fishy flavor. In the opinion of this author, fishy flavor is caused by a slow, spontaneous chemical change by which acid is developed and which is favored by small amounts of oxygen. As a means of prevention, he advocated making butter from pasteurized sweet cream, and butter made from pasteurized sweet cream with a starter, without ripening, seldom, if ever, becomes fishy.

These seem the principal references to fishy flavor in butter, except one or two which occur in dairy text books, which are as follows: Lafar, in his text book on Technical Mycology, published in 1904, states that fishy butter is due, or is found to appear, when in certain regions pastures are flooded by salt water and the grass or hay therefrom is covered by small crustacea. The use of common salt made from sea water, or salt which contains much magnesium, imparts a fishy flavor to butter, and there are numerous in-

stances in which the presence of too much salt has resulted in fishiness. A fourth cause is due to micro-organisms.

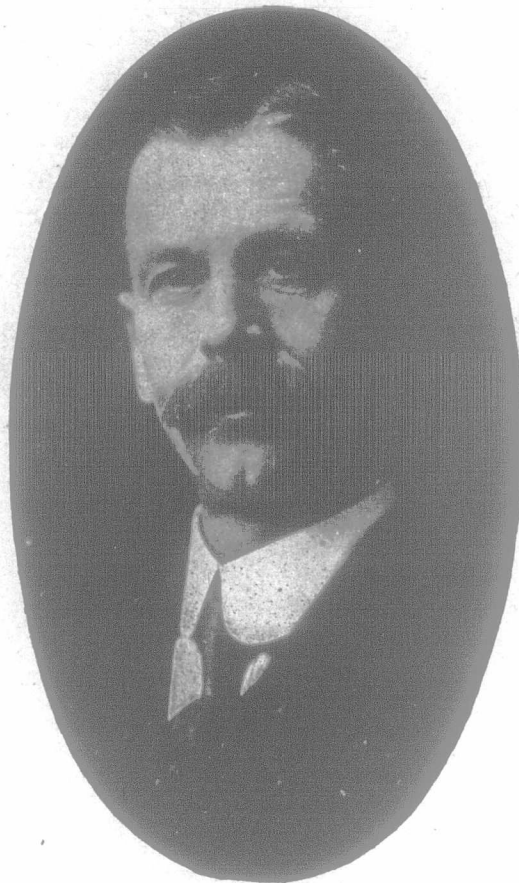
Weigmann, in his text book on the Mycology of Milk, published in 1911, gives the same causes. Siedel found that a cause of fishy flavor in butter made from pasteurized cream was due to the washing of the pasteurizing apparatus with soda solution, which, in spite of repeated washing and rinsing with water, left a grayish deposit on the metal, which seemed to impart a fishy taste to the butter.

OPINIONS OF PRODUCE DEALERS.

In this connection I wrote to several large exporters of butter in Montreal, asking them if they had had any experience of this defect in Canadian butter, and, if so, to what extent, and to what degree it depreciated the value of the article. I received a number of instructive replies, which I may summarize as follows:

1.—"There have been many theories as to the cause of 'Fishy Flavor' in butter. Formerly, 'Fish' was given as a reason, then 'Salt,' then 'Salt That Had Been Near Fish,' then 'Salt Stowed In Vessels Crossing The Ocean,' but more recently the fault has been attributed to 'Dirt' in various forms, the flavor being taken in through the milk or cream, or through the salt. Probably the fault comes more frequently through the 'Salt' than in any other way, but we are satisfied that there are other causes."

2.—"We have met with this flavor in butter quite frequently, and fishy-flavor butter usually sells at one to two cents per pound under the price of finest, the depreciation, of course, depending upon market conditions. It has been our experience that fishy flavor is not often met



S. E. Facey, Harrietsville, Ont.

President Western Ontario Dairymen's Association.

with in new butter, but generally arises in butter that has been held in cold storage for some length of time. We have also noticed that when butter is very mild-salted, the fishy flavor does not seem to develop to the same extent as in higher-salted butter."

3.—"Re 'Fishy Flavored Butter.'—This is a common fault with all held butter, and we think only an exaggerated term for 'staleness'—at least, the two go hand-in-hand. It is a question of degree. The lower the temperature the slower the process. We think salt sometimes turns butter fishy. 'Saltless' butter is rarely fishy in low temperature."

"As to the value of these faulty flavored butters, it is a question of degree again. Personally, I would not have fishy butter on my table as a gift, but there are many people who seldom or never get anything else. Of course, they don't know as I do. Ordinarily, such butters have to be sold at one to four cents per pound under finest, mild, fresh flavored. Canadian tastes have changed very much the last few years as regards butter, and it is more difficult to sell low grades than formerly, even at the reduction. There is not so much fishy butter as formerly, because we think it goes into consumption more regularly than in former years."

From the results of former investigations and from the opinions of leading wholesale mer-

chants it seems pertinent to inquire if the term "fishy" accurately describes the flavor or trouble complained of. I have noted often that expert judges seldom agree in their description of a specific flavor, and it is certainly necessary to have a standard for comparison. Shall we define fishy flavor, as a peculiar oily taste, suggestive of certain parts of a fish, such as salmon or cod, or shall we enlarge the definition and apply it to any kind of an oily taste present in butter? You will note that a Montreal exporter goes even further and states that he thinks it is only an exaggerated term for staleness. The matter is more important from the biological than from the buyers standpoint, because we may have a number of different living agents producing the different shades or degrees of bad flavor. For example, the casual agent of "staleness" may be entirely different from the casual agent of a true fishy taste.

I think it is reasonable to assume that fishy flavor may be imparted to butter by poor salt, probably of sea origin, and by certain small crustacea, but we may set these reasons aside, for under our conditions these are seldom, if ever, met with. Let us discuss, therefore, those most likely to occur under Ontario conditions.

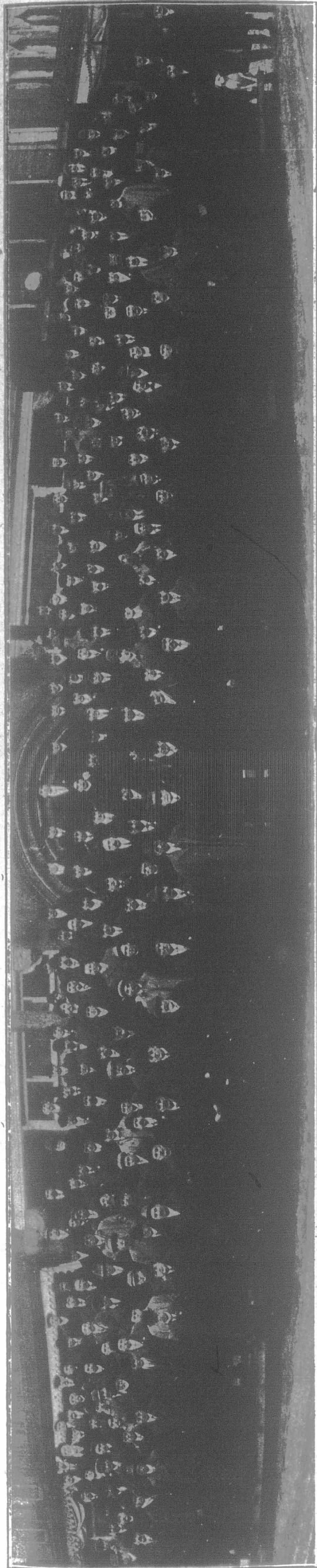
I think most makers who have to make butter from gathered cream will agree with me that during the hot weather the cream received at the factory is over-ripe. It has quite a high degree of acidity, and in many cases a secondary fermentation is commencing. The task of the maker to produce a first-rate article from such raw materials becomes at once a very difficult one, for the control of the acid fermentation is beyond his control, and secondary products are being formed in the butter by a variety of organisms. Even pasteurization of stale cream would not bring the best results, for many of the changes go on without the organisms, but through the agency of enzymes elaborated by them.

Such organisms as varieties of *Oidium lactis*, moulds, such as *Penicillium glaucum* (the common blue-green mould), *Cladosporium butyri* are all fat splitters, and such commonly found organisms as *Bacillus fluorescens*, a common organism in water, *Bacillus mesentericus* or potato bacillus, *Streptothrix odorifera*, and many others belong to this fat splitting company and produce undesirable flavors in butter. Another factor which I believe gives a disagreeable, fishlike flavor, is a bacterial substance known as indol, and which is produced by a number of fecal bacteria, such as the *Colon bacillus*, *B. lactis aerogenes*, and many others.

Tri-methylamine, which has an odour of hering brine, undoubtedly gives a disagreeable flavor to butter, which may be termed fishy. Rogers denies the statement of O'Callaghan that this substance (tri-methylamine), which is produced by *Oidium lactis*, gives rise to a fishy flavor, but we must remember that under the name *Oidium lactis* are included a large variety of organisms, some of which undoubtedly produce poor flavor. I recall an instance of this.

Dr. Weigmann, the Director of the Dairy Experiment Station at Kiel, and one of the leading dairy authorities in the world, prepared and sold a starter for buttermakers which contained a lactic-acid organism, together with a variety of *oidium lactis*. The combination or mixed culture gave excellent results and a fine flavored butter, that, however, had a very limited keeping quality, which, Dr. Weigmann told me, was due to the action of the *Oidium* decomposing the butter fat, and giving rise to an undesirable flavor. Hence, he could not recommend this culture for the preparation of butter for export purposes, but only for butter which was quickly consumed. I had samples of this culture, and in some experimental work confirmed the conclusions of the German Expert.

Again, Rogers states that large quantities of tri-methylamine could be worked into butter without producing any trace of fishy flavor. I believe this statement true, but find that if minute quantities are employed, there is a decided fishy flavor. If one smells a bottle of 33 per cent. solution of tri-methylamine, no trace of fishy flavor can be noticed, but make a large dilution by adding a drop to a cupful of water and the smell is instantly noticed, even at a distance of several yards. Hence, any organism able to produce this substance (tri-methylamine) in butter may give rise to a fishy taste, and we know that many producing this substance are found frequently in butter. Recently a Japanese investigator, Tsujimoto, has found that the odor of fish oil is due almost entirely to clupanodonic acid. This acid, by the addition of more hydrogen atoms, becomes stearic or oleic acid, and it is possible that oxidation of stearic acid or stearin and oleic acid or olein might result in the formation of clupanodonic acid, and thus give a fishy flavor. This is merely an hypothesis, and may be the explanation of Roger's surmise, that "fishy flavor is caused by a slow, spontaneous chemical change



Western Ontario Dairymen's Association, Woodstock, Ont., January, 1913.

by which acid is developed and which is favored by small amounts of oxygen."

A high-acid production, or the presence of lactic acid bacteria giving high-acid cream evidently is another factor which encourages secondary changes, among them a fishy flavor.

PREVENTION.

Undoubtedly, Rogers' remedy of making butter from pasteurized sweet cream prevents fishy flavor, but this remedy cannot be carried out under our present system of making butter from gathered cream.

We must either take precautions to obtain cream in better condition, or use some method of treatment in the factory.

The most obvious method of improving the gathered cream is a campaign of education to show patrons the necessity of cleanliness in each detail connected with milking and separating, and the importance of immediate cooling and holding the cream at a cool temperature until it arrives at the factory. These details have been given so often that I need not enlarge on these at the present time.

The proper treatment of over-ripened cream at the factory is a more difficult question. Some recent experiments have shown that ozone may be used for deodorizing stale cream. The cream is first pasteurized and then carried to an agitator and treated with ozone for forty minutes. The cream is slightly bleached by this process and completely deodorized and the acidity reduced one-half. After cooling, the cream is churned into butter. Butter made by this process grades as No. 1. Such a process would have to be carefully investigated under factory conditions and the cost carefully computed before it could be adopted with certainty, but, if Ontario makers are finding it difficult to manage gathered cream successfully, and if they cannot obtain cream sufficiently sweet for the best manufacturing result, then some process, such as that described, would seem advisable in order to secure the best results.

Dairying is considered by many as the greatest manufacturing business in this country.

POULTRY.

A Mammoth Farm Poultry House.

Poultry, and rightly so, is gradually coming into its own as one of the most valuable assets to the general farm. More up-to-date sanitary houses are being erected year after year, and better methods of feeding and management are being practiced, and where the farmer and farmer's wife were once rather indifferent and skeptical regarding the feathered tribe on the farm they are now alert and seeking information which will lead them to success as it has done others. Housing is of prime importance. There are many good styles of houses and many bad. A very good type is that here illustrated, a house situated on Sir Henry Pellat's large stock farm in Ontario County. This house, 102 feet long and 16 feet wide, is placed on a cement foundation on a sloping piece of ground, which made it possible to build an incubator cellar 18 feet by 16 feet under the east end. The house faces the south, it is ten feet high in front and five feet high behind. There are six pens in the house, partitions being of wire netting with doors from pen to pen. It is a curtain-front house, no glass being used in its construction. The frames containing the cotton are three feet by three-and-one-half feet in size, and are removable. The roosts are situated along the north side of the pens with dropping boards. They are made of ordinary scantlings on the level, and hook up out of the way to permit of ease in cleaning out. It is the intention of the manager of the farm, T. Cussion, to keep only one breed of hens, and to go into the poultry business on quite an extensive scale, using colony houses to supplement the large house. Five incubators are to be run, and about 800 chickens hatched this spring. This house alone will house from 325 to 350 hens comfortably.

Plan to use nothing but a bred-to-lay cock bird or cockerel in the breeding pens to produce pullets for egg production. Make the selection of this bird early.

GARDEN & ORCHARD.

Strawberry Culture.

Editor "The Farmer's Advocate":

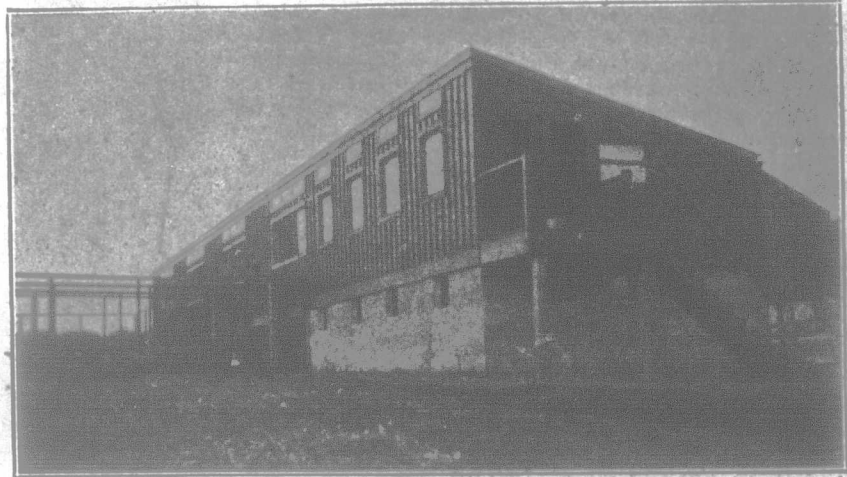
The Strawberry will do very well on a great variety of soils, but unless the land is naturally well drained it is very important that it should be thoroughly underdrained.

It is best to have preceded the strawberry crop with a hoe crop, which had been kept clean, thus giving us few weeds to fight in the berries as possible. The working of the hoe crop the previous year has a tendency to rid the soil of grubs. It is best to manure the land heavily in the fall and fall-plow the ground, this also helps to lessen the number of grubs in the soil. The plowing should, at least, always be done early in the spring. The soil should be thoroughly tilled after plowing, and just before planting the ground should be rolled, and after rolling it may be marked out with a marker similar to a corn marker, making the rows 4 feet apart, or perhaps 5 feet when the land is extra strong. The distance apart in the rows should be about 2 feet when the rows are 4 feet apart, and 15 inches when 5 feet apart. If it is not convenient to get a marker as mentioned above, a very satisfactory method of marking the rows is to stretch a string, and run a wheelbarrow along the string, in this way a few acres can soon be marked out. The planting may be done quickly by two persons working together, one person going ahead and making a cleft in the ground with a spade deep enough to let the plant in the ground to the depth it had been in before transplanting, the man behind carrying the plants, placing one in each hole, spreading the roots out and putting the earth on with his hand, and pressing it firm with his foot, all of which can be done very quickly when one has a little practice. The plants should always be kept moist, and never exposed to the sun and wind. If they become dried out a large number are almost sure to die. The time of planting may vary somewhat, and still give good results, any time between April 20th and May 10th, depending upon the season.

The cultivation should begin in a week after the berries are planted, or sooner if the ground becomes baked. The cultivator may be used to keep the ground loose, but care must be taken not to destroy the runners. It is important that the patch should be hoed often in order to prevent the weeds from getting a start, and, in addition to this, the runners should be spread out and placed so that they will cover the ground evenly. When the matted row system is practiced, which is most common, care should be taken not to let the rows come too close together, at least a foot should be free of runners, otherwise there would not be room to pick the fruit.

The blossoms should always be picked off the first season, in order to give the plant the best chance possible to set a large quantity of runners.

It is necessary to protect the plants in winter. Various kinds of mulch may be used,



Poultry House on Col. Sir Henry M. Pellat's Farm, Ontario Co., Ont.
An incubator cellar is situated at the near end.

such as marsh hay, corn stalks, strawy horse manure, or wheat straw, and the plants should be all covered, but it is not necessary to put a real heavy covering on, especially if manure is used. The danger of early frost may be lessened by not uncovering the plants too early in the season. To uncover, simply rake the heaviest of the mulch into the space between the rows. As a rule it is necessary to pull a few weeds out before the fruit is ready to pick.

A small house or tent should be provided, or at least some protection for the berries when they are picked. And, as there is bound to be a rush when the picking season is on, care should

be taken to have the carriers, crates, boxes, etc., in good shape. The matter of pickers is sometimes a vexed question, but if possible it is best to have women rather than young girls and boys.

The question of a market is an important and necessary fact of strawberry culture. The canning factories take a larger quantity each year, but if the plan, which was tried on a small scale last year, namely, the shipping of the berries to Winnipeg and other places at a distance, could be developed to advantage it would relieve the home markets, and have a tendency to make prices better, and the canners less independent. One thing is very necessary if the berries are going to look well and keep well, and that is careful picking. Care must be taken not to pick over ripe berries, nor should they be picked too green.

The first crop having been harvested, it is then a question as to whether it is best to try to save the patch, and get another crop or simply plow it up. If the patch is a good one and not too dirty, perhaps it will pay to cultivate it for another season. The after harvest cultivation should first begin by using the mower to cut the vines off close to the ground, and then the vines or any straw that may be left can be raked up and taken off, and a light furrow run down on each side of the rows leaving them about a foot and a half wide. After this the cultivator can be used, and the weeds in the rows hood or pulled out. The winter protection should be the same as for the new patch.

There are a great many varieties of strawberries, many of which have proven to be very good. Care should always be taken not to plant a variety, or any number of varieties that have imperfect flowers. It is best to plant about every third row of a perfect variety. Bulletin No. 62, issued from the Experimental Farm, Ottawa, recommends the following varieties: Commercial: Beder Wood (per.), Splendid (per.). Warfield (imp.), not suited to light soil, Williams (per.), Greenville (imp.), Bisel (imp.), Sample (imp.), Buster (imp.), Domestic: Excelsior (per.). Splendid (per.), Senator Dunlap (per.), Lovett (per.), Ruby (per.), Bubach (imp.), Wm. Belt (per.).

Blenheim, Ont.

J. O. LAIRD.

Leamington Onion Fields.

The Leamington district has been bulging into prominence of late in a most surprising way. Situated, as it is, near the western end of Lake Erie, it enjoys a climate milder than that of any other part of Ontario. This gives it a great advantage in the early maturing of vegetables such as tomatoes and muskmelons, and these products of its gardens have made a place for themselves in the markets of all our large cities. For the raising of peaches this district has also become famous. In the town itself the strong odor of tobacco makes itself felt in the vicinity of two large factories, which work up the product yielded by the farmers' fields in the surrounding country. Yet more important than all is the corn crop, which, throughout the whole of Essex County, is brought to greater perfection than anywhere else in Canada. As if all this were not enough, Leamington has become noted for the production of onions on a large scale. While onions are grown to a considerable extent on the high sandy ground close to the town, the onion fields proper are about six miles away, on the reclaimed marsh lands of Pelee Point.

Only a comparatively small portion of the Pelee Point marsh has been reclaimed, and much of this artificially drained land is but low-lying dark clay, not especially suitable for the growing of onions. But there are hundreds of acres there appreciably lower still, in which the level clay is overlaid by black muck to a depth of from one to six feet, with occasional pockets much deeper. On a typical farm that was visited by "The Farmer's Advocate" representative on his mission of enquiry early last December, the muck at the front of the farm was two feet deep. At the rear end, about a mile distant, the depth of the muck was five feet. At any point between, the depth of muck could be safely estimated varying exactly in proportion to the distance from front or back, so uniform is the surface of the underlying clay. The proprietor states that since his occupancy of the farm, the depth of muck has decreased by a foot in consequence of being drained and tilled. The surface of the land is almost exactly level with that of Lake Erie, drainage being secured by a huge ditch or canal which has been dredged out across the point, and out of which the water is pumped at either end into the lake by steam power.

Some six or eight years ago it began to be realized that "The Marsh", as it was locally termed, was great onion soil. Since that time the area devoted to this crop has rapidly increased. As every Ontario onion grower knows, the year of 1911 was one of light crops and high prices. In consequence a much larger acreage was planted everywhere in 1912, and the yield

being unusually heavy, though but of indifferent quality, the crop has been hard to sell at even the low prices prevailing. In the Pelee Point Marsh District about 200 acres of onions were grown, and the average yield is estimated at 600 bushels per acre. There may be slight exaggeration here, as is the case with most estimates, but yields of individual fields varied from 300 bushels to (in several cases) fully 800 bushels per acre. In the early part of December a very considerable part of the crop was still in the hands of the growers, and a problem new to most

required to tend them. They go from farm to farm in succession, and are owned and run as are threshing outfits.

The onion sacks as filled are piled like cord-wood in airy sheds so that the curing process may continue. Before being shipped the sacks are emptied onto large, slatted, sloping sorters, the culls picked out and the rest bagged and weighed, 75 lbs. 1-in. put into each sack.

On the farm of John Ross, one of the leading onion growers, the Government, through its county representative, conducted experiments for

some years. The main purpose of these was to determine the most suitable fertilizers to apply for onions on that muck soil. The one conclusion that stands out clearly is that barnyard manure is the best. Commercial fertilizers did not prove as satisfactory as was hoped, though in some instances excellent results followed their use. For the general crop, it may be safely said, that comparatively little of it receives fertilizer of any kind, and yet onions are grown on the same plots year after year.

A Co-operative Onion Growers' Association which works in friendly harmony with the one in Scotland, Ont., has helped its members very materially in the marketing of their crop. Up to December the Association had

shipped 60 car loads of onions, 600 bushels to the car, and estimated that they had 20 car loads still unsold.

As whole farms in this district are suitable for the raising of onions, and as labor is there, as elsewhere, extremely scarce, it follows that only a small percentage of the land available can be devoted to this profitable crop. On the farm of Mr. Roach, indeed 55 or 60 acres were in onions last season, but practically all of this acreage was centered in small plots on shares. The process of sub-division of farms has begun, and lots of five, ten, fifteen and twenty-five acres are now not uncommon.

There has followed another inevitable result. Prices of marsh land are soaring. For property that a few years ago was of little value, \$100.00 to \$150.00 an acre and even more are asked. Some weakening of the boom may be looked for as a result of the drop in onion prices. But the feeling a year ago was well expressed by a coal dealer in Leamington who owns and works ten acres of onion ground in "the marsh", when referring to an offer of \$150.00 an acre that a neighbor had received. "I wouldn't take less than \$200.00 an acre for mine, as I can make that much on it from onions every year."

THE FARM BULLETIN.

Cobourg Horse Show.

Affairs of the Cobourg Horse Show showed a healthy state at the annual meeting recently held in Cobourg. In 1906 gate receipts were \$697 and in 1912, \$4,491; while the total receipts for 1912 were \$10,000. In the past seven years \$20,000 has been spent in prizes, and \$4,100 in improvements. The value of real estate buildings of the show is now \$25,000. The president has communicated with the agricultural societies of Northumberland and Durham with a view to ascertaining the best method of increasing the entry from these two counties.

New officers are:—Hon. President, W. J. Crossen; President, J. D. Hayden; Vice-President, R. F. Massie; Secretary, J. H. Davidson; Treasurer, E. W. Hargraft; Directors, Dr. H. C. S. Elliot, F. N. Field, K. C., Percy Clarke, G. A. Plunkett, G. F. Jones, Jas. Bulger, T. M. Hawley, H. Field, J. R. O'Neill, C. E. Speer, W. R. Thompson, J. D. Haig, Geo. Greer, J. B. McColl, J. P. Field, D. Dick.

The date of the 1913 show is August 12, 13, 14, 15 and 16.



A Pelee Island Onion Field.

of them, that of winter storage, was being faced.

Cultural methods on "the marsh" differ slightly from those followed generally. Drills are wider, being 16 to 18 inches apart, and seed is sown deeper, an inch and a half being the depth aimed at. In a growthy season, such as last year, the development of top is prodigious. Where the crop was good the tops were three feet high, and so thick that the ground could not be seen. This district is blessed in being yet un-



A Pelee Island Onion Storage Cellar.

visited by that pest dreaded by gardeners, the onion maggot. At the proper time the bulbs are pulled by hand, laid in rows and left to dry until ready for topping. Topping by hand was the rule until lately, but now machine toppers, driven by gasoline engines, do much of this work. These machines top, sort, and bag the onions automatically, a gang of men, of course, being

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The Open Winter.

By Peter McArthur.

Is an open winter a blessing after all? I have heard many people rejoicing because the mild weather made it unnecessary to feed their stock heavily, and those who, like myself, cut their own wood find that there is a great saving in fuel. They say that a winter like the one we have been having is "not so hard on the poor" and that is a good thing, but there is another side to the story. The weather is so changeable that colds and sickness are very prevalent, and because of the bad roads the social life of the country has been at a standstill. There are days when hardly a rig passes, even on a road that lies between two villages, and not since I have come to the country have there been so few public entertainments of any kind. The mild and wet weather leaves the country roads impassable, and that keeps people at home when there is little work to be done. It would be much better if they could be refreshing themselves with the natural enjoyments of visiting and parties. Although most of us dread the steady cold of the old-fashioned winters, I am inclined to think that the steady severe weather is better for us than the kind we are getting. The old-fashioned winters have plenty of sleighing that makes traveling about a luxury, and it always freshens people to mix with their fellows. Although the weather has been mild, this winter threatens to seem unusually long because people are practically prisoners on their farms.

I am beginning to wonder what the hunters are after. Every day I hear shooting in the woods, and I am at a loss to know what game is being pursued. It is now the close season for quail, partridge and black squirrels, but the guns are banging away as merrily as in the early fall. Once in a while the wind brings evidence that skunk's are being killed, and that reminds me skunk hunting seems to have risen to the dignity of a profession. One day last fall I saw a couple of well-dressed hunters with guns and dogs passing through a field, and fearing that they might be after quail I went out to warn them off. The one I interviewed was dressed to the minute in puttees, khaki hunting jacket and prospector's boots. He told me that they were hunting for skunk, and were having a very successful season. They had taken seven on the previous day, and as I understand that good skins are worth from three to four dollars each, the occupation is not unprofitable. They had a tent located a couple of miles away, and were traveling through the country hunting carefully through each district. As neither the dog nor the hunters gave my nose any evidence of their occupation, there must be some way of "illin' s' un's and 'trammeling up the consequences". When an ordinary man undertakes the task it is usually months before either he or his dogs are received in good society. Yesterday a hunter passed through the neighborhood looking for mink. He said that their skins are worth twelve dollars each this year. This recalls the fact that while in the village recently I saw a young man getting a lot of empty packing boxes, and was told that he was going in for breeding mink and wanted the boxes to make dens for them. With skins at that price, mink farming should rank with the fox farming of Prince Edward Island. Strange to say, although the woods are so nearly cleared off, I have been told that the catch of fur-bearing animals in Southern Ontario is almost as great as it was in the days of the Indians and the Hudson Bay Company. It is some time since I have seen a coon skin tacked up on the end of a wood-shed, but every once in a while I hear a farmer complain that coon hunters have cut down a tree worth more than many coons. As a matter of fact the beavers seem to be the only important kind of fur-bearing animals that have entirely disappeared from the country. It does not increase one's respect for the law of the survival of the fittest to find that such vermin as skunks, weasels, and mink, have survived all the other wild creatures that were in the original forests. I wonder if it is the same with human beings, and that the harder the struggle for existence becomes the more likely we will be to find the meaner, more cunning and despicable types prospering? Sometimes when I am feeling bilious I am inclined to think that the law of the survival of the fittest works out among human beings the same as it does among skunks.

It is surprising to find how few of the things that were native to the country have really disappeared. Last fall I was asked to write a Christmas story, and in the course of it tried to describe a dinner where pioneer dishes were used. I found it was possible to get all of them except one. Nowhere could I get a trace of the old wild crab apples that grew in the thick woods. The pioneers used to put them away in pits until spring, and then would cook them in maple syrup. I felt quite

safe in saying that these wild crab apples had disappeared with the original forest, but when the story was published I found that a housewife living within a mile of me had been putting up wild crab apple jelly about the time I was writing the story. It seems that there is a thrifty wild crab apple tree about three miles from here on the banks of the creek that flows through this farm. This is another thing that shows how foolish it is to be sure about anything. Emerson, in his biographical sketch of Thoreau, tells that the naturalist-philosopher had found, in the neighborhood of Walden Pond, specimens of practically every kind of plant produced on the continent. He was even able to duplicate samples that had been brought to him from the Arctic circle, and that were not supposed to exist in the Temperate zone at all.

Last week I opened another silo—I mean trench—of celery, and was surprised to find that I was altogether too hasty in complaining about the pithy growth of the plants. When the work of trenching the celery was being completed we trencched the pithy stuff on general principles, and because we had noticed a few good hearts in the huge bundles of stalks. On opening the trench I stripped away the pithy outer stalks and found, in almost all of them, large sound hearts. The celery I grumbled about turns out to be the best we have had this year. It is crisp, and tender, and better-flavored than the kind we had been using earlier in the season. But this has been a bad year for trenching celery as it was almost impossible to keep the water drained away from it, and the mice got into some of the trenches. At the same time I am inclined to think that trencched celery, if handled successfully, retains its flavor, and is much more appetizing than that which is kept in cellars.

Apples that we kept for the winter are proving interesting in several ways. They were packed in barrels just like those that were shipped, and instead of being put in a cellar were buried in a side hill. Although I hear complaints that apples kept in pits and cellars are rotting badly, ours are coming out as sound as when they were put away. We opened a barrel of Spies last week, and I found only one rotten apple. They were as sound as when they were packed, and it was interesting to find that, although they were tightly pressed, they were not injured. The bruises caused by the pressing had all dried instead of rotting, and the only damage done was to the shape of the apples. As the barrel we opened had been filled with culls, I am inclined to think that the apples shipped must have been of pretty good quality, because these were good enough for anyone. The ink spot and scabs, which made it necessary to cull them, have not affected the eating or keeping qualities of the apple, and now when there is no choice fruit with which to compare them they seem more like Fancy No. 1s than like culls. So far I have not found a single worm, and "we eats them cores and all."

The Regina Clydesdale and Shorthorn Sale.

The dispersion sale of 77 Clydesdales and 61 Shorthorns, held by P. M. Bredt & Sons, at Regina, Sask., on December 18th and 19th, was a decided success, handsome prices being obtained. The five-year-old imported show mare Estelle, by Up-to-Time, sold for \$2,000 to Geo. Kinnon, Cottonwood, Sask.; John A. Turner, Calgary, being the runner up. The six-year-old mare, Madrigal, by Ruby Pride, went to John Young, Yorton, at \$1,000. The four-year-old mare, Zuleika, by Everlasting, went to John A. Turner, at \$950; Dunrobin Pearlina, by Argus, went to R. Sproule, of Caron, at \$1,060, and Queen Alexandra, a two-year-old filly, sold for \$925, to R. J. Renwick, of Corrine, Sask. Seven stallions two years and over, averaged \$914. Three yearling stallions averaged \$363. Thirty-six mares and fillies, three years and over, averaged \$564. Six two-year-old fillies averaged \$556. Eight yearling fillies averaged \$307. Seventeen spring foals averaged \$313, and the 77 head of all ages averaged \$505. The shorthorns also brought fair prices, the top being \$900 for the five-year-old stock bull, Iron Duke, taken by J. Roberts, Maidstone, Sask. The three-year-old imported bull, British Victor, sold for \$510 to R. Sproule, of Caron. The highest price for a female was \$550 for Evening Belle, a two-year-old, bred by Capt. Robson, of London, Ont. Sixty-one Shorthorns, old and young, averaged \$266.60 per head.

The thirteenth annual convention, of the Ontario Fairs and Exhibitions Association, is to be held in the Canadian Foresters' Hall, 22 College St., Toronto, Ont., Feb. 5th and 6th, 1913.

The Maple Sugar Association.

The first annual meeting of the shareholders of the Pure Maple Sugar and Syrup Co-operative Agricultural Association has been held in Waterloo, P. Q. The following were elected directors of the society: R. T. Brownlee, Hemmingford, Huntingdon, Co.; Luc J. A. Dupuis, Village des Aulnaies, L'Islet Co.; Chas. F. Fisk, Abbotsford, Rouville Co.; M. E. Goddard, Waterloo, Shefford Co., and John H. Grimm, Montreal. The directors elected Mr. Goddard president, and Mr. Fisk vice-president, and appointed Mr. Jos. H. Lefebvre, Waterloo, secretary-treasurer. The following honorary officers were also elected: Patrons, Hon. Martin Burrell, Hon. Sidney Fisher, Hon. J. Ed. Caron; Hon. President: Prof. J. F. Snell, Macdonald College.

Luc Dupuis and M. E. Goddard addressed the meeting in French and English, respectively, on methods of manufacture of maple syrup and sugar. A. A. Carleton, West Newbury, Vt., President of the Vermont Maple Sugar Maker's Association, presented the greeting of his twenty-year-old society to its new-born sister. W. H. Bullock, M.P.F., who made the boast of having spent every sugar season in the bush since he was one year old, promised the society to do everything he could to advance its interests. Prof. J. F. Snell gave an address on the composition of maple sap and syrup, illustrating his remarks by experiments and by exhibits of properly labelled and misbranded containers.

The chief interest of the meeting centred in the discussion of the question of improved legislative protection of the industry. This discussion was opened by John H. Grimm in a carefully prepared paper, pointing out the decrease in the output of maple products shown by the census statistics, and urging that the use of the word "Maple" be forbidden to manufacturers of mixed and imitation goods. Mr. Grimm maintained that it was the competition of these inferior goods which had caused the falling off in the production of genuine maple syrup and sugar. Geo. Small, Montreal, maintained that it was not the adulterator nor the manufacturer of mixed goods who was hurting the maple syrup industry of the eastern townships so much as the eastern townships' farmer himself, who had not learned to put out a pure product, uniform in density, color and flavor, and uniformly and conveniently packaged.

Prof. Snell introduced a resolution, seconded by R. P. Small, Dunham, asking for amendments to the Adulteration Act, which would clearly distinguish mixed goods from pure. In amendment Mr. Fisk moved the following resolution, which was carried by a vote of 15 to 2:

Whereas we find by the Census Statistics of the past twenty (20) years that the production from the maple tree has diminished considerably; the cause of which we attribute to the unremunerative prices obtained for it on our uncertain market, which is glutted with all kinds of adulterated goods, labelled in such a manner as to deceive the purchasers and induce them to buy what they believe to be the genuine product of the maple tree. Whereas the stopping of the sale of such falsified articles, except on their own merits, would tend to increase the demand and sale of the genuine maple product, and thus open a larger market and give the farmer or producer protection and encouragement to increase his output instead of curtailing it, as has been the case in the past few years; and, whereas, we are of the opinion that a slight change or amendment in the Adulteration Act might bring about a change:

Resolved—That we do earnestly petition the Hon. Minister of Inland Revenue to amend the Adulteration Act in the following manner: No person shall manufacture for the purpose of offering for sale or sell sugar or syrup which is not the genuine maple-tree product, bearing labels containing the words: "Mapleine," "Maple favor," "Maple extract," "Maple mixture," or labelled with an illustration or picture suggestive of the fact that they are products of the maple tree. No person shall expose or offer for sale or sell any sugar or syrup which is not the genuine maple tree product, the packages of which are labelled in such a way as to deceive the public or purchaser, to induce him to buy such for maple tree products, except such falsified or mixed goods bear the words or marks—"Cane sugar," "Cane syrup," "Mixture or Compound," "Beet sugar," "Beet syrup," as the case may be, or "Adulterated." If any person accused of selling, offering for sale, or exposing for sale as pure, an adulterated article or imitation of Maple Syrup or Sugar, or other Maple Products, can prove to the satisfaction of the court before which the prosecution is brought, that he bought the article in good faith as pure and that it was invoiced to him as Maple sugar, syrup, or other Maple Products, he may call into the case the person from whom the goods were bought, and may himself be discharged from prosecution. Anyone contravening the above shall render

himself liable to a penalty of not less than two hundred dollars (200), confiscation of his goods, and imprisonment; one-half the penalty to belong to and be paid to the informer, and the other half to form part of the Consolidated Revenue Fund.

The handsome exhibit of maple syrup and sugar prepared by M. F. Goddard for the meeting was much admired. It is hoped that competitive exhibits may form a feature of future meetings. The secretary of the society states that the membership list has already reached the hundred mark, and that subscriptions are coming in daily. The shares of the society are \$10 each, payable one dollar a year.

South Peel Notes.

Threshing in this district at time of writing is nearly over. There was more to do this year than last, and farmers are not worrying over feed shortage. This district is gradually turning into a dairying centre. Whole sweet-milk and cream for Toronto use take up the attention of the majority of farmers. The man of to-day who ships either of those foods has to give his cattle and stables, as well as utensils, better care than ever before. The city of Toronto sends an inspector to inspect every part of a producer's plant, and, as these come unawares, a producer has to keep up to a high standard. The dairy business is helping other lines. The grain dealer or miller does a good business, simply because a dairyman is not satisfied to feed alone what he grows, but knows that he can make a profit from food that he buys. Sales of dairy cows take place every few weeks at different places. And to make a success at those sale arenas is only a game of chance. The majority of people are beginning to realize the importance of keeping a good sire and raising the heifer calves. If you'll excuse a personal reference, I might say that the writer, who keeps a pure-bred Ayrshire bull, was offered \$25 cash for a two-year-old grade heifer. This heifer was by the pure-bred bull and out of a grade Shorthorn cow. This heifer is making us twenty dollars a month. I just mention this fact to show the advantage of a pure-bred sire. The hired help problem is one of the most serious that farmers have to face. Many are investing in labor-saving machinery to help relieve the situation. Many gasoline engines are being in-

stalled to pump, grind and cut wood. Land in this district is advancing, and almost any ordinary farm will bring \$100 per acre.

The Literary and Debating Society of this district has again commenced operations. With what pleasure many a young man and woman looks forward to these meetings! To take up some subject, or take part in a debate, makes us study, and the result is mind development, which we all so much need. Youth, we know, is the time to learn—a foolish time to think that we know it all. I remember reading a verse some years ago which should prove helpful to use these long winter evenings. It reads as follows:

Up, up! thy young aspiring youth,
Step by step to the rounds of truth;
Wake up, wake up! improve thy mind,
And leave dull ignorance behind.

Peel Co., Ont. JAS. B. ROSS.

Death of John Jackson.

Too late for publication of particulars in this issue we have been informed of the death of the well and widely known Canadian breeder of Southdown sheep, John Jackson, of Abingdon, Lincoln County, Ont., which occurred on January 3rd. Mr. Jackson's sterling character, and genial manner, and his splendid record as a breeder of high-class stock, as a competent judge, and as a helpful member of the Dominion Sheep Breeders' Association, will be unanimously acknowledged by those who knew him. We hope to publish in our next issue fuller appreciation.

Dominion Aid to Agriculture.

Under direction of the Dominion Minister of Agriculture, Hon. Martin Burrell, a comprehensive scheme for the promotion of Canadian agriculture, largely in co-operation with Provincial Departments, has been worked out by C. C. James, formerly Deputy Minister of Agriculture in Ontario, involving an outlay of \$10,000,000 in the course of the next ten years. Hon. Mr. Burrell laid the proposals before Parliament in an able speech on Jan. 23rd., details of which will appear in next week's paper.

Sale of Pure-bred Stock at Ottawa.

The annual sale of pure-bred stock, held by the Eastern Ontario Sales Association in connection with the Ottawa Winter Fair, took place Friday, January 17th. The large lecture room was filled to its capacity, but bidding was rather slow. Captain T. E. Robson, of London, was auctioneer. The stock sold comprised Shorthorns, Ayrshires, Holsteins and a few Clydesdales. Prices were not high. The following brought \$100 or over:—

MALES.

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| Nonpareil Star, (Shorthorn), A. Doland, Carp. | \$105 |
| Lord Nonpareil, (Shorthorn), A. Pritchard, Casabasia, Ont. | 120 |
| Sir Imperial Paul, (Holstein), John Corstian, Russell, Ont. | 100 |
| Golden Ro'e, (Shorthorn) | 100 |
| Greenbush Favorite, (Shorthorn), A. Riddle, Giletta | 150 |
| Golden Rule, (Shorthorn), Wm. Kidd & Son, Black Rapids | 100 |

FEMALES.

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| Merry Beauty, (Shorthorn), Scobie & Co., Scobie | 120 |
| Belmar Flower, (Shorthorn) | 125 |
| Beatton Maid, (Shorthorn), R. G. Pritchard, Ferrus | 120 |
| Nettie, (Shorthorn), W. A. Wallace, Kars. | 175 |

The highest price for a Clydesdale was \$440, for a two-year-old imported filly consigned by Smith & Richardson, and bought by the Ontario Agricultural College.

Better Than Ever.

I have been a subscriber to "The Farmer's Advocate" continuously since 1886 (27 years) first as a monthly, then semi-monthly and latterly as a weekly, and am free to say that you have more than kept abreast of the times in agricultural matters, and have always been in the forefront in advocating what has been in the best interests of Canadian agriculture, and to-day "The Farmer's Advocate" is better value than at any time since its advent. Your recent Christmas issue was a literary and artistic gem, and worth a whole year's subscription.

Queens Co., P. E. I. WALTER SIMPSON.

No Navy, No Tariff, Tax Reform, Direct Legislation and Parcels Post.

The bill of fare at the thirty-eighth annual meeting of the Dominion Grange, held in Victoria Hall, Toronto, Jan. 22nd and 23rd, was, for the most part, a repetition of the large order given a year ago. For an aggregation of fierce-fighting farmers, hard-headed, deep-thinking farmers, who have a policy, and are not afraid to make that policy known, no other organization in Canada equals the Dominion Grange. The meeting was fairly well attended by delegates from various local Granges, and the discussions, though mostly on old subjects, were illuminating in the extreme. Canada is now at a very critical stage in her development, and many questions of vital importance to her future welfare face her people. The naval question is one which touches every man, woman and child in this Dominion; the tariff has been a bone of contention between political parties since the beginning; our system of obtaining revenue through indirect taxation is now being discussed on every hand; the initiative and referendum are questions occupying the minds of our deepest thinking citizens; our school system is not perfect, and learned men are earnestly seeking to improve it; the tax levied on automobiles does not meet requirements, and needs re-adjusting; some system of Parcels Post is sure to come, and we want the best; and there are still many well-informed people who believe in reciprocity, and an extension of the British preference. Look over this list, and imagine the wide scope covered by the Dominion Grange in annual meetings.

The following resolutions were passed by the meeting, and show plainly the feeling of Grangers on each of these questions:—

1.—The fast-running heavy automobile is doing more damage to our roads than any other one cause. The tax on these machines should be graded according to H.P., and should be sufficiently large to repair damage which they do. Where autos are purchased whose speed power is away beyond the limit allowed by law, the tax should be proportioned to the excess of speed.

2.—A resolution demanding that Parliament submit the naval question to the people in the form of a referendum.

3.—The rapid spread of rural mail delivery in Canada lends special importance to the establish-

ment of some system of parcels post to help bring the consumer and producer together. Canada now carries parcels for other countries. To escape extortionate express charges we respectfully urge the Post-Office Department to investigate the working of the system in other countries with a view to its adoption here.

4.—Taxation of land values would have the effect of expropriating a great share of unearned increment for the public treasury, and would assist in making possible the change from indirect to direct taxation.

5.—Transcontinental highways for automobiles are highly reprehensible. These roads will be of little or no use to farmers. The average county roads should be made the good roads.

6.—A resolution endorsing direct legislation through the initiative and referendum pointing out that we now have the initiative in Ontario in connection with the Liquor License Act, and it is working well. Our present constitutional system does not provide adequate machinery for either the rational discussion or the fair settlement of public questions, and the extension of the practice of direct legislation would do much to remove the disabilities under which we labor at present.

7.—The protective principle should be entirely eliminated from the tariff, and as soon as may be, the public revenues should be raised by direct instead of indirect taxation. An indirect tax, such as customs duties, is susceptible of gross unfairness of incidence, is expensive to collect, and is out of harmony with progressive thought. The incidence of a direct tax on land values is patent to all, and its expenditure will therefore be more carefully watched. It is easier to collect, and much more difficult to evade.

8.—We recommend such a gradual increase in the British preference as will, in the course of a few years, lead to complete free trade with the mother country as the best way to render assistance to Britain, and at the same time reduce the cost of clothing, iron-ware and other manufactured articles to the Canadian people. We are amazed at the people loudest in patriotic acclamations being unwilling to extend this preference.

9.—A resolution expressing confidence in reciprocity, and putting forth the opinion that it

cannot be permanently blocked, and still holding to it and hoping that it will be placed in the form of a referendum.

The educational committee brought in several resolutions which were passed.

1.—Favoring the advisability of improving and extending continuation classes in rural schools, and encouraging the teaching of elementary agriculture by use of school gardens and nature study in rural schools, and also the consolidation of these schools to permit of more advanced work.

2.—A reduction of rigidity and uniformity of school work due to bureaucratic control. Teachers should have more liberty, and examinations should not be so highly emphasized.

3.—Teachers should teach the duties and responsibilities of citizenship, both by information concerning the mechanism of our social and political life, and by concrete object lessons through democratic school organization.

4.—A resolution calling attention to the dangers that are irreparable from the growth of military drill in our schools tending to the increase of international antipathies, and the development of a narrow sense of national self-sufficiency, mis-called self-respect. We desire especially to protest against the use of the Boy Scout movement and the Cadet Corps as means whereby to carry on the propagation of militarism.

5.—We commend the work of the District Representatives of the Ontario Department of Agriculture, and hope the good work they are doing and can do may be very widely extended. Granges should co-operate with them.

The Legislative Committee brought in a report approving of rural-mail delivery and favoring legislation for parcels post system, for tax reform, and urging that the Government investigate all alleged combinations and trusts, that "stock watering" be made a criminal offence; also urging the public to protest against iron and steel bounties, and favoring local option in taxation as well as commending a bill advocating the abolition in Canada of the practice of the bestowing of titles.

All this, together with the Master's address, made rather a long and heavy list for a two-

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day session. Henry Glendinning, of Manilla, Ont., Master of the organization, in his opening address referred to the past season as a somewhat discouraging one for the farmer, due to so much rain, but pastures were good, favorable to the milk supply and to stock. He believed the cause of the falling off in marketable stock to be the light rainfalls in June 1909, 1910 and 1911, which, coupled with the high temperatures, dried and parched the land, causing short pastures and short crops, which in turn reduced the stock on the farm. Farm labor is still scarce, and electrical power for farm work is still too expensive. Dealing with the good-roads question he stated that he was opposed to any expenditure on roads by the Federal Government, believing that all roads should be built by the provinces and municipalities, and that the "good roads" should not be a transcontinental highway for automobiles, but the roads leading from the farm to the market in village, town or city.

In a retrospective view of Ontario farm life, Mr. Glendinning called attention to the fact that 50 or 60 years ago farmers had little money, and work was done by bees or exchange of labor. Farmers then shared each others' joys and sorrows, but as they prospered they hired help and became more independent, and to-day are very independent indeed, using telephones and rural mail delivery in place of personal communication. Contrary to the views expressed by most of our progressive people, Mr. Glendinning believed that all this leads cityward. We admit that all these conveniences have a tendency to eliminate, to some extent, the old-fashioned logging bees, the old time corn huskings, short calls, etc., but how many people have left the farm because rural mail delivery and rural telephones have been installed? How many more would have left had these conveniences not come? City conveniences on the farm cannot but make farm life more attractive.

The speaker went on to say that we should get better acquainted with our neighbors, and give the rural people social conditions which will keep them in the country districts. He reiterated the Grange's stand on reciprocity, urged that something be accomplished in connection with a Canadian Parcels Post system, and with local option in taxation, favored a referendum on the navy question, denounced militarism, and urged farmers of Ontario to complete some effective organization citing, as an example, the coal miners of Britain.

The general sentiment of the meeting was strongly in favor of larger grants to public schools, although different opinions were expressed on the consolidated school system, the stumbling block being the difficulty of getting the children back and forth especially in winter. Many thought it had been a mistake to do away with the Model Schools, as teachers, in some districts, are now very scarce, and much difficulty is experienced in obtaining them.

The navy policy was hotly criticized, and not a single delegate was in favor of a money contribution. When a standing vote of all those present was taken all but two delegates voted for no navy whatever, showing that the Grange is not in favor of either a contribution to Britain or a Canadian navy. Col. Fraser, of Burford, expressed himself as of the opinion that navies are useless as a matter of defence. He believed that militarism, as at present constituted, tends to debase men and elevate officers, and is thus a menace to efficiency. If war did come in earnest he believed, with E. C. Drury, that the men from the farms, from the lumbering districts and from the fisheries would be the men upon whom the defence of the country would fall.

All were in favor of parcels post. It was pointed out that our postal authorities must now carry parcels from the United States, from England, and Germany, countries in which the system is now in operation, and why should they not carry Canadian parcels?

W. C. Good and other speakers showed how the tariff is a tax which the user or consumer of products really pays, and favored in strong terms direct taxation and the abolition of custom duties.

Speaking on this same subject, Chas. Anderson, of Lennox Co., and who has been in the implement business in the West, showed what purchasers lose in duty on implements and machinery. He stated that a 45 h. p. engine brought to Winnipeg from the United States draws in duty \$300, and the duty on a grain separator is \$230, or a total duty on a complete threshing outfit of about \$610. The duty on a gas tractor is about \$380, and upon an engine gang-plow about \$112. This shows what purchasers on this side of the line must pay in order to get the best type of American machines.

The automobile came in for its usual condemnation. Several instances were noted, where, due to carelessness or lack of courtesy on the part of auto drivers, people in the country had been injured or horses badly scared, and the offenders had escaped with very light penalties.

The automobile is a machine which is bound to remain with us, and while legislation governing its speed should be more stringent, and while these machines should be taxed according to horse power and the money should go to repair the use of roads which they wear, there is nothing to be gained by harping about past cases of unfortunate accident. All auto drivers are not criminals. The majority of them are considerate, and all should not be branded bad because a few fail to live up to the law. The best means of obtaining better conditions is by reasoning the matter out with the parties concerned, rather than by the "fighting" process. Those who are spoiling for a fight are usually accommodated. Insist upon taxing according to horse power and upon applying the money accruing therefrom to repair the country roads, and also demand justice and speed control, but this will not come from "nasty" words, but rather from plain reasoning.

A resolution was also passed urging that, before the Bank Act is revised, a commission be appointed to investigate banking in this and other countries, and that their findings be published in the form of a blue book to be circulated among the people.

Officers elected:—Master, W. C. Good, Brantford; Overseer, Col. Fraser, Burford; Sec.-Treas., J. J. Morrison, Arthur; Lecturer, R. J. Woods, Corbetton; Chaplain, B. Morry, West Lake; Steward, Crawford Allan, Alliance; Assistant Steward, F. D. Baird; Lady Assistant Steward, Miss Burton; Executive, W. C. Good, Col. Fraser, J. J. Morrison, E. C. Drury.

Hydro for all Kinds of Farm Purposes.

Hydro-electric power is already in everyday use on quite a number of Ontario farms, and many farmers are installing it every day. Some use it for lighting only, but others employ it as power for a variety of purposes. It is particularly popular among owners of milking machines. Two-horse power, costing \$50 per h.p., or a total of \$100 per year, will run a four-unit milking machine and at the same time keep several electric lights on in the house and stable. Between times it will run a saw, pulper, grinder, cutting box, pump, grindstone, washing machine, electric air heater, water heater and vacuum cleaner, besides heating flat-irons, electric warmers (used in place of hot-water bottles), and if you can think of any other purpose requiring heat or power, add that too. All these things "The Farmer's Advocate" has lately witnessed under ordinary farm conditions in Elgin and Oxford Counties. Up to date, the power has been supplied to individual farmers by the Hydro-electric Commission through one sub-station or another on a flat-rate basis. The purpose is to get hydro used on a number of farms so that data and object lessons may be obtained.

Two weeks ago we saw a Belgian milking machine started in the herd of Alex. Anderson, near St. Thomas, Ont. The machine was supplied for test by the Ontario Hydro-Electric Commission's rural section of the Engineering Department. It worked altogether by pressure, the teats being automatically squeezed and released by parallel rubber plates nearly right at the top. The pressure is applied first to the upper rims at the base of the teats and then gradually downwards, something after the manner of hand milking. At first, what with the double excitement caused by a crowd around and also the new apparatus, which makes some little noise under the cows, they did not milk down very well, though we hear they have done better since. It is claimed as a strong point of this machine that it is more sanitary, there being no narrow tubes to keep clean. The milk flows to a covered receptacle, under the floor of the cow's chest, suspended by a sure-iron, another holding up the apparatus behind. Mr. Anderson has installed hydro-electric current and uses it for other purposes besides milking. R. A. Penhale, in the same vicinity, who has a Sharples milker which he has been running with a gasoline engine, is also installing hydro and will use it for as many purposes as possible. The economy of electric power purchased on a flat-rate basis consists in finding as continual employment as possible for the power. Other farmers near St. Thomas are wiring for electric light. No doubt most of them will soon be using it for power as well.

The best commercial demonstration we have yet observed was last Friday on the farm of George Raymond & Son, near Ingersoll, Oxford Co., Ont. Messrs. Raymond have had hydro installed since the middle of October, obtaining it from the Hydro-Electric Commission through the Ingersoll

Station, paying \$100 per year for two horse-power. With it they run a three-unit milking machine, lighting part of the house and one side of the stable at the same time. The same pump would operate four units with no greater demand on the current. In summer they milk 88 cows, most of which are stripping at present. They also run a Bell No. 50 cutting box, a Fleury 10-inch plate grinder, a drag saw and buzz saw, an emery wheel and grindstone, a root pulper and fanning mill. In the house they run a washing machine, toast bread, heat flat irons, and two or three rooms. They have also purchased an electric water heater and intend to buy a vacuum cleaner. All these household attachments except the washing machine, are run by merely connecting them up as needed to a plug cluster, one side being for the light-bulb and the other for other purposes, or in other cases to a neat connection set in flush with the floor. To run the washing machine the motor (weighing, we believe, ninety pounds) is lifted on to a cart or sleigh and taken to the house for the time being. The motor is a small affair, easy to connect up and never in the way. While at the barn it is placed in the basement and connected by belt to a line-shafting, from which all the machinery, including the milking-machine pump, is run. It is a handy as a pocket in a shirt. The cost of electric wiring and permanent fixtures for the house alone was \$77. This, of course, does not include the flat irons, electric heaters, or other detachable apparatus. The house is a large one, is very completely wired, and the cost of wiring was greater than the cost of wiring a new house would be. So handy are the appointments that the proprietor can touch a switch button to turn on the light without getting out of bed, see the time and go back to sleep, if the hour permits. Two or three rooms are heated with a simple portable electric heater. Electricity is not an economical means of heating except when employing current that would otherwise go to waste, but it is certainly handy. Outside the house is a strong beacon light on an old flag-pole. They say this sheds light for miles around. It is turned off when milking or doing other heavy work, so as to keep down the load.

The writer was fortunate to visit Mr. Raymond's farm on a day when the hydro-electric engineers were there making observations. For this special purpose they had with them a Baker portable Graphic watt metre, on the ruled blank chart of which a needle inscribes a continuous record of the horse-power being used. The chart is revolved by clock-work. It recorded these facts: The Bell cutting box No. 50 running 408 revolutions per minute with the motor at 720 put through 5 binder sheaves of hard ear corn per minute, requiring a maximum of 8½ horse power though an average of not over two. The knives were quite dull. By dividing sheaves it was possible to keep below the two-horse-power load, even without sharp knives. Running the Fleury plate grinder, one bushel of barley was put through in ten minutes, ground fine enough for cattle feed, the maximum demand on current being one and one-third horse power. Sixteen cubic feet of pulped turnips had been put through in seven minutes, with a consumption at the rate of ½ horse power. The milking machine pumps, capable of milking four cows at a time, required about 1½ horse power, leaving half a horse power to run a number of lights.

We were particularly pleased with the candor of the Hydro-electric engineers. If a certain result was not quite so successful as they would like, they said so and recorded the facts. Privately they assured us of their opinion that the estimate of power for farm purposes at \$50 per horse power was quite on the safe side, and that with increasing use there is every prospect of substantial reduction. Distribution is the big item of cost, and the more extensively this current is employed throughout the area covered by the distribution wires, the more economical the current will become.

In "Nature's Diary", of the 16th, a misprint occurs in the directions for making the plant-press. The word "zinc" appears in the place of the word "pine." Makers of plant-presses for the season of 1918 please note that the four slats should be of "pine or basswood."

Enclosed please find postal note for \$1.50 in payment for yearly subscription to your "Farmer's Advocate." It is O. K. It is hard to get along without it. Editorials are grand, and the very useful hints always come in just at the right time to jog the memory. Yours truly,
Victoria Co., N. B. C. H. SPIKE.

It is a grand paper, and is like an old friend, could not keep house without it. Wishing your paper every success.
SAMUEL G. STEWART.
Prince Edward Co., Ont.

MARKETS.

Toronto.

REVIEW OF LAST WEEK'S MARKETS
At West Toronto, on Monday, January 27th, receipts of live stock numbered 53 cars, comprising 1,150 cattle, 9 hogs, 48 sheep and lambs, and 17 calves; no business was transacted. Packers quoted hogs at \$3.50, fed and watered, and \$8.15 f. o. b. cars.
Receipts of live stock at the City and Union Stock-yards last week were as follows:

| | City. | Union. | Total. |
|--------------|-------|--------|--------|
| Cars | 20 | 357 | 377 |
| Cattle | 835 | 5,781 | 6,616 |
| Hogs | 23 | 5,023 | 5,046 |
| Sheep | 144 | 1,654 | 1,798 |
| Calves | 78 | 420 | 498 |
| Horses | | 15 | 15 |

The total receipts at the two markets for the corresponding week of 1912 were as follows:

| | City. | Union. | Total. |
|--------------|-------|--------|--------|
| Cars | 244 | 238 | 527 |
| Cattle | 3,030 | 3,566 | 6,596 |
| Hogs | 5,656 | 7,861 | 13,517 |
| Sheep | 1,283 | 2,610 | 3,893 |
| Calves | 316 | 59 | 374 |
| Horses | 1 | 264 | 265 |

The combined receipts of live stock at the two markets for the past week, show a decrease of 150 cars, 530 cattle, 8,471 hogs, 2,054 sheep and lambs, and 250 horses, but an increase of 124 calves, compared with the corresponding week of 1912.

As will be seen by the above figures, receipts of live stock at the Union Stock-yards were exceedingly liberal, and as a consequence prices declined materially in all classes. Not only were the common and medium grades lower, but the good to choice sold from 25c. to 50c. per cwt., and the common and medium 40c. to 60c. per cwt. lower than for the previous week's quotations.

Exporters.—There were no cattle bought for export, but there were a few loads of export weights and quality on sale, the tops of which sold on Tuesday at \$7 to \$7.15, while the best price offered on Wednesday for the same quality of cattle was \$6.60 to \$6.75.

Butchers.—Choice steers, 1,150 to 1,200 lbs., sold on Tuesday at \$6.50 to \$6.90; loads of good, \$3.80 to \$6.25; medium, \$5.40 to \$5.75; common, \$5 to \$5.80; inferior, light cattle, \$4.70 to \$4.90; choice cows of heavy weights, \$5.50 to \$5.75; good cows, \$4.75 to \$5.25; medium, \$4 to \$4.50; common cows, \$3.50 to \$3.75; canners and cutters, \$2.50 to \$3.50; heavy bulls, \$4.75 to \$5.75; light bulls, \$3.75 to \$4.50. On Wednesday and Thursday's markets, cattle, that is, steers and heifers, sold from 15c. to 25c. per cwt. lower than these quotations, but cows and hulls did not suffer to the same extent.

Stockers and Feeders.—There was a light demand for steers of good quality and color. About four carloads were bought to fill an order from London, Ohio. Stockers, 700 to 800 lbs., \$4.90 to \$5.35; feeders, 800 to 900 lbs., \$5.25 to \$5.50.

Milkers and Springers.—The market was well supplied with common and medium cows, and backward springers, which sold from \$35 to \$50 each; good quality milkers and forward springers, sold from \$60 to \$70, while a very few of choice quality reached \$75, and one cow brought \$81.

Calves.—Choice veal calves were in excellent demand, and very scarce, selling from \$9 to \$9.50 per cwt.; good calves were also scarce, selling from \$8 to \$8.75; medium calves sold at \$6.50 to \$7.50, and common, rough, heavy, Eastern, grassy calves, sold at \$4.25 to \$5 per cwt.

Sheep and Lambs.—Sheep were in demand, at steady prices. Ewes of light weights sold from \$1.75 to \$5.50; heavy ewes and rams, \$1 to \$4.25; culls, \$2.50 to \$3.50. Lambs sold at lower prices, although receipts were light. Few lambs of good quality were offered. On Tuesday, prices ranged from \$8.50 to \$8.75, with a very few at \$9. On Wednesday, lambs sold from \$8 to \$8.50, and slow sale.

Hogs.—The bulk sold at \$8.25, for adults, fed and watered at the market,

and \$7.90 f. o. b. cars at country points, although a few lots were reported at \$8.30, fed and watered.

Horses.—Horse dealers report that nearly all the stables in Toronto are filled with horses, but trade is quiet. There has been some enquiry by North-west dealers, and they will not pay the prices asked. Farmers will have to reduce prices if they wish to do business with the Western dealers. There were a few horses sold, but to local buyers only. Prices reported were as follows: Drafters, \$250 to \$290; general-purpose horses, \$200 to \$240; wagon horses, \$175 to \$225; drivers, \$100 to \$150; serviceably-sound horses, at \$80 to \$100.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 93c. to 94c., outside; inferior grades, down to 70c.; Manitoba, No. 1 northern, 95c.; No. 2 northern, 92½c.; feed wheat, 66½c., lake ports. Oats—Ontario, No. 2, 33c. to 34c., outside; 33c., track, Toronto; Manitoba, No. 2, 41½c.; No. 3, 40c., lake ports. Rye—No. 2, 78c. to 79c., outside. Peas—No. 2, \$1.15 to \$1.20, outside. Buckwheat—51c. to 52c., outside. Barley—For malting, 60c. to 65c.; for feed, 40c. to 50c., outside. Corn—No. 3 yellow, 56½c., track, Toronto, all-rail shipment. Flour—Ontario, ninety-per-cent. winter-wheat flour, \$4.05 to \$4.15, delivered. Manitoba flour—Prices at Toronto are: First patents, \$5.80; second patents, \$4.80; in cotton, 10c. more; strong bakers', \$4.60, in jute.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$13.50 to \$14; No. 2, \$11 to \$12 per ton.

Straw.—Baled, car lots, track, Toronto, \$10 to \$10.50 per ton.

Bran.—Manitoba, \$19 to \$20 per ton, in bags; shorts, \$22 to \$23, car lots, track, Toronto. Ontario bran, \$19 to \$20, in bags; shorts, \$22 to \$23, car lots, track, Toronto.

TORONTO SEED MARKET.

Alsike No. 1, per bushel, \$11.50 to \$12.50; alsike No. 2, per bushel, \$10.50 to \$11; alsike No. 3, per bushel, \$9.50 to \$10; red-clover seed, Ontario-grown, \$7 to \$9 per bushel; timothy No. 1, per bushel, \$1.90 to \$2.25; timothy No. 2, per bushel, \$1.25 to \$1.60.

COUNTRY PRODUCE.

Butter.—Market unchanged. Choice creameries, 32c. to 34c. per lb. rolls; creamery solids, 30c.; separator dairy, 28c. to 30c.; store lots, 24c.

Eggs.—New-laid, market easier, at 27c. to 30c.; cold-storage, 24c. to 25c.

Honey.—Extracted, No. 1 clover honey, 12½c.; combs, per dozen sections, \$2.75 to \$3.

Beans.—Broken car lots, \$2.55 to \$2.65 for choice hand-picked, and \$2.50 to \$2.60 for primes.

Poultry.—M. P. Mallon, wholesale dealer, reports receipts as being fairly liberal, at prices as follows for dress-d: Turkeys, 20c. to 22c.; geese, 16c.; ducks, 18c. to 19c.; chickens, 15c. to 17c.; hens, 12c. to 13c. per lb.

Potatoes.—Market easier. Car lots of Ontario potatoes, track, Toronto, 65c.; New Brunswick Delawares, 80c. per bag in each case.

HIDES AND SKINS.

No. 1 inspected steers and cows, 14c., No. 2 inspected steers and cows, 13c.; city hid s, flat 13c.; country hides, cured, 12c.; country hides, green, 11c.; calf skins, per lb., 15c.; lamb skins, \$1 to \$1.35; horse hides, No. 1, \$3.50 each; horse hair, per lb., 37c.; tallow, No. 1, per lb., 5½c. to 6½c.

FRUITS AND VEGETABLES.

Fruits and vegetables of all kinds have been and are plentiful. Apples, especially of the No. 2 and 3 grades, are plentiful, and cheaper than a few weeks ago. Spies, No. 1, per barrel, \$3.25 to \$3.50; Spies, No. 2, \$2.50 to \$2.75; Spies, No. 3, \$1.50 to \$2; Greenings, No. 1, per barrel, \$2.50 to \$3; Baldwin's, \$2.50 to \$3 per barrel; Kings, No. 1, per barrel, \$3 to \$3.50; cabbage, per barrel, \$1; beets, per bag, 75c.; carrots, per bag, 75c.; turnips, per bag, 75c.; parsnips, per bag, 60c.

British Cattle Market.

John Rogers & Co. report Irish steers quoted at 13½c. to 17c. per lb.

Montreal.

Live Stock.—There were more cattle on the local market last week than butchers called for, the result, being that prices showed an easier tone, particularly as the quality of the stock offering was a little on the common side. Quite a few cattle were left unsold. The best animals on the market sold at 6½c., and some fine stock at 6c. to 6½c., while good stock ranged from 5½c. to 6c., considerable business being done at this range. Medium sold at 4½c. to 5c., and common ranged down to 4c. and 3½c. per lb. A few canning animals sold at 3c. per lb. The market for sheep and lambs was steady, prices being 5½c. to 5½c. per lb. for sheep; 4c. to 4½c. for bucks and culls, and 7c. to 7½c. for lambs. Calves ranged all the way from \$8 to \$10 each, according to quality. Hogs were cheaper, ranging around 8½c. to 9½c. per lb., according to quality, weighed off cars.

Horses.—Dealers reported a dull trade. The market was steady. Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$300 to \$400; light draft horses, 1,400 to 1,500 lbs., \$225 to \$300; light horses, 1,000 to 1,100 lbs., \$125 to \$200; broken-down animals, \$75 to \$125 each. Choice saddle or carriage animals, \$350 to \$500 each.

Poultry.—The market for poultry was poor, but prices held fairly steady owing to scarcity of stock. Turkeys were 20c. to 21c. per lb.; geese, 12c. to 14c.; fowl, 10c. to 18c.; ducks, 14c. to 17c., and chickens, 14c. to 17c. per lb.

Dressed Hogs.—Country-dressed hogs were lower in price, being 12½c. to 12½c. per lb. for lights, and 11½c. to 12c. per lb. for heavies. Abattoir-dressed were 12½c. to 13c.

Potatoes.—There was little change in the market for potatoes. Car lots of Green Mountains sold at 75c. to 80c. per 90 lbs., track, while Quebec grades were 65c. to 70c. In a jobbing way, prices were 20c. to 25c. more than those quoted.

Eggs.—The mild weather had the effect of making people talk lower prices, though the scarcity of stock kept quotations fairly firm. Fresh-laid eggs, however, were said to be down to 35c. per dozen, while some quote 30c., the drop in the price of American eggs being responsible, as well as the increased production of Canadian fresh. Select cold-storage eggs sold at 26c. to 28c.; No. 1 candled, 23c. to 25c., and second grades, 20c. to 21c.

Syrup and Honey.—White-clover comb honey was 16c. to 17c. per lb.; extracted, 11½c. to 12c.; dark comb, 14c. to 14½c., and extracted, 8c. to 9c. Maple syrup sold at 8c. to 10c. per lb. in tins, and 7c. to 8c. in wood. Sugar, 9c. lb.

Butter.—Choicest creamery was quoted at 29c. to 30c., and good at about a cent less. Fresh makes were not in very active demand, and prices held around 25c. to 27c. per lb. Dairies were 24c. to 25c. per lb.

Grain.—No. 2 Western oats were quoted at 41½c. to 42c. per bushel, carloads, ex store; extra No. 1 fed, 41c. to 41½c., No. 3 Canadian Western, and No. 1 fed, 40½c. to 41c. per bushel.

Flour.—There was no change in the local flour market. Manitoba spring-wheat patents were quoted at \$5.40 per barrel, in bags, for firsts, and at \$4.90 for seconds, while strong bakers' sold at \$4.70. Ontario winter-wheat patents were \$5.35 in wood, and straight rollers \$4.95 to \$5 per barrel. Wood was 30c. per barrel more than jute.

Millfeed.—The market for millfeed was easy, there being a poor demand for the most part. Bran sold at \$20, and shorts at \$22, while middlings were \$27 per ton, in bags. Considerable American corn has been sold for feed it is said.

Hay.—No. 1 hay was \$14 to \$14.50 per ton; No. 2 extra, \$13 to \$13.50; No. 2 ordinary, \$12 to \$12.50; No. 3 hay and clover, about \$10 to \$11 per ton. This was for pressed, carloads, track, Montreal.

Hides.—After the changes of week before last, the market is steady. Beef hides sold at 12½c., 13½c. and 14½c. per lb. for Nos. 3, 2 and 1; calf skins, 14c. and 16c., and sheep skins \$1 each. Horse hides were steady, at \$1.75 each for No. 2, and \$2.50 for No. 1. Tallow sold at 6c. to 6½c. per lb. for rendered, and 1½c. to 3c. for rough.

Buffalo.

Cattle.—Prime steers, \$8.50 to \$8.75; butchers', \$6 to \$8.25; bulls, \$4 to \$6.50; stock heifers, \$4 to \$4.50; shipping, \$7.25 to \$8.25; heifers, \$4.75 to \$7.50; cows, \$3.25 to \$6.50; stockers and feeders, \$4.50 to \$6.75; cows and springers, \$35 to \$80.

Veals.—\$4 to \$12.
Hogs.—Heavy, \$7.65 to \$7.70; mixed, Yorkers and pigs, \$7.70 to \$7.75; roughs, \$6.75 to \$6.90; stags, \$5.50 to \$6.25; dairies, \$7.50 to \$7.70.

Sheep and Lambs.—Lambs, \$6 to \$9.10; yearlings, \$5 to \$8; wethers, \$6.25 to \$6.80; ewes, \$3.50 to \$3.75; sheep, mixed, \$4.50 to \$6.

Chicago.

Cattle.—Beaves, \$6 to \$9.05; Texas steers, \$4.70 to \$5.60; stockers and feeders, \$4.90 to \$7.50; cows and heifers, \$2.70 to \$7.20; calves, \$7 to \$11.

Hogs.—Light, \$7.85 to \$7.62½; mixed, \$7.85 to \$7.62½; heavy, \$7.10 to \$7.65; rough, \$7.10 to \$7.30; pigs, \$5.75 to \$7.40.

Sheep and Lambs.—Sheep, native, \$4.75 to \$6.25; yearlings, \$6.40 to \$8; lambs, native, \$6.70 to \$9.

GOSSIP.

POSTPONED SALE.

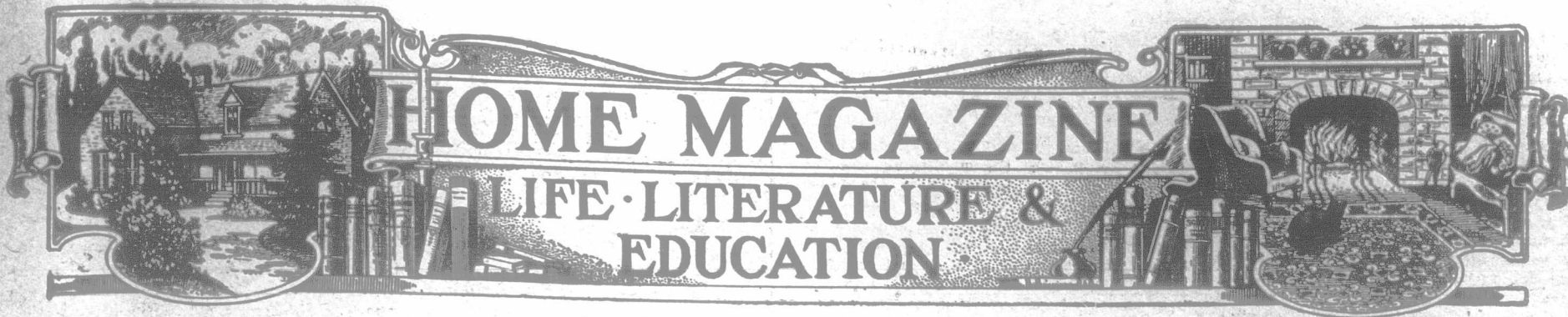
Owing to bad weather, delaying steamship, the date fixed for the sale of imported Clydesdale mares, by John Semple, Milverton, Ont., may have to be postponed. Notice of changed date may be looked for in our next issue.

SALE DATES CLAIMED.

- Feb. 5th.—Annual Consignment Sale, Toronto; Shorthorns.
- Feb. 5th.—T. H. Hassard, Markham, Ont., sale at Toronto; Percherons and Clydesdales.
- Feb. 7th.—Graham-Renfrew Co., Bedford Park, Ont., at Burns & Shephard's Repository, Toronto; Clydes and Hackneys.
- Feb. 12th.—Geo. Davis & Sons, Erin, Ont.; Aberdeen-Angus.
- Feb. 14th.—Fred Bogart, Kettleby, Ont.; Shorthorns.
- Feb. 25th and 26th.—Union Stock-yards Co., Ltd., Toronto; Clydesdales and Percherons.
- March 5th.—Annual Contribution Sale of pure-bred cattle, at Guelph, Ont.
- March 6th.—James Cowan, Seaforth, Ont.; Shorthorns.

The dispersion sale of Fred A. Bogart, Kettleby, Ont., will be one of the most important events of the season. Founded several years ago, by selections from the famous herds of John M. Gardhouse, Weston, and Geo. M. Ralke, Barrie, Ont., Shorthorn breeders know they have been chosen from two first-class herds. The stock bull (Scottie) is a winner in any company, with model head, strong, level back, deep rib and flank, with splendid hind quarters. No one will be disappointed in the cows and heifers, many of which are first-class show propositions. Uniformity of type and quality is a striking feature. They are thick-fleshed, strong-backed, with every indication of sound constitution. All will be sold, without reserve, as Mr. Bogart has sold his farm, and must make room for his successor. The date is February 14th.

R. Hamilton & Son, Simcoe, Ont., widely known as importers of high-class Percheron horses, report an exceptionally good trade so far in the new year. Among the recent sales are: To the Fonthill Percheron-breeders' Association, the grand, black three-year-old stallion, Justioier (3033), an exceptionally well-bred horse; to D. C. Warner and F. H. Stewart, the five-year-old stallion Hivernage (3026), which weighed, when sold, 2,165 lbs., and has quality at every point; to R. Watson, the three very high-class stallions, Inda 3030, Ibis 3029, and Jansenius 3032; to John Buckingham, Becher, Ont., the three-year-old stallion, Joncy 3035. Messrs. Hamilton write: still have a very select lot on hand. We "Our mares are also selling fast, but we have recently shipped mares to Quebec, Nova Scotia, and Alberta, besides selling several in Western Ontario. Our mares nearly all show to be in foal, and interested parties should see them before buying elsewhere, as we are satisfied we have what will suit them at a reasonable price."



Around by The Bridge.

(By Margaret Grant McWhirter.)

We had only gone a short way when fingers and toes began to respond to the touch of Jack Frost. The air was heavy with a prophesy of a coming storm—the tang of approaching winter was in the air. And the roads—how rough they were, as boy and I bumped along over the frozen ground. I begged a lessening of speed till we should reach a smoother road. It was a new journey to the boy, and very proud he was of the expedition.

The crossing by the ferry being impracticable on account of the heavy frost of the two preceding nights, we took the road "Around by the Bridge" in order to reach our destination—a farm house in the township of Maria. Presently the road led through woodland country, up hill and down dale, till we reached the river road. Pleasantly the time passed, pointing out to boy the houses we passed on our way, as well as the remains of an old mill-dam, where the water pours over and between the great logs, while trees and shrubs bereft of foliage, grow all around, and farther below the brook winds its way to the river. Driving in the teeth of a frost-laden west wind, fingers and toes become insistent, so we halt at a store in Grand Cascapedia where the genial lady in charge stirs the slumbering embers, and, adding Irish fuel, soon has us comfortable. Here is the nucleus of a village. The stores of J. A. Campbell and the Messrs. Nadeau cater to the inhabitants, and the saw mill of the latter firm gives employment to the people of the vicinity. There are many large and comfortable houses, while a flour mill of the latest improved roller process is situated on the opposite side of the river.

Ere long we reach the iron bridge of the Quebec Oriental Railway, built above for trains; below for foot and horse. How eagerly the boy scanned the wonderful structure, murmuring the while, "I wish the road was all bridge"—a sentiment which finds no response in my heart.

The Grand Cascapedia River! How beautiful, as it winds about, intercepted with islands,—presenting a panorama of wonderful beauty. To the left, high wooded banks, to the right the mountain-side; between flows the beautiful river abounding in salmon and trout, while below rich flats spread abroad. The road rescued from the mountain, and protected on the river-side by a crib-wharfing, appears dangerous enough to timid souls, and I bid the boy "hug the hill," which looks as though it might be able to produce a landslide on short notice. Still down river—and lo! A little schoolhouse with happy children amusing themselves at the noon hour. To one little fellow who rushes near our horse I call a warning, for "Charley" has taken a nip from the unwary before this.

The youngster scurries away amid the laughter of his companions, and we pass on.

A glad welcome and warm dinner meet us when we draw rein at our friend's house. With happy intercourse, all too soon the hours pass. We notice with a pang the traces of advancing age on the couple, and sadly the conviction is forced upon us that for them,—life's battle having been bravely fought, its duties and difficulties faced and surmounted—the journey cannot be much longer; together, "hand in hand," they descend life's hill. May our conscience be as clear of neglected duties and graces as that of our old friends when we, too, draw near the "parting of the ways."

At last, with hearty au revours, we are en route for home. Boy's pockets bulge in every direction: they cannot hold another apple. Boy's appetite, too, is satiated; reluctantly he turns away from a huge piece of cake.

The prophesy of the morning is evidently not to fail of fulfilment. The air is filled with snow-furries. The day is done. In the darkness we allow our horse to take his own gait over the

be removed, but do not make the room too unattractive. Short, washable curtains, and clean white linen covers for the tables, and a few fresh flowers, will help so much to make the sick-room bright and cheerful.

The ideal bed is iron, or brass, single or three-quarter width. The double bed is inadvisable, for, owing to the width, the mattress is apt to sink in the middle, and it is then almost impossible to

the motion is apt to irritate the patient. Never leave empty or half-empty glasses of milk or broth standing by the patient. Medicine bottles and all necessary utensils should be kept in an adjoining room, if possible.

The floor should be swept with a soft broom, covered with cheesecloth, which is free from lint. Carpets are very objectionable, small rugs, which can be shaken daily, being preferable. Never use a feather duster, but clean, soft dust cloths, which may be washed every day.

The air in the sick-room must be pure. The value of fresh air as an aid to recovery is sadly underrated. The open fire-place is one of the best methods of ventilation. The temperature of the sick-room should be 68 degrees at night, and 70 degrees during the day.

To properly care for a patient, those undertaking the responsibility of the nursing must take proper care of themselves. Rest and out-of-door exercise are positive necessities. If the same member of the family has both day and night nursing to do, she should always dress herself as comfortably as possible for the night. A cold bath in the morning, with a complete change of clothing, will be found refreshing. Dresses of washable material should always be worn when attending the sick.

Never whisper in or near the sick-room. Never discuss the patient's condition with her, or with any person in her hearing. Never tell the patient what her temperature, pulse, etc., are, even when they are normal. When speaking to a patient, always stand in front of her, where she can see you, for when people are ill and nervous they are easily startled. Keep door and window hinges well oiled. Nothing is more aggravating than a squeaking door.

When getting ready for the night, attention must be paid to anything likely to disturb the patient's rest. Before the patient goes to sleep see that you have everything at hand that you will likely need for the night: extra blankets, a shade for the light, coal prepared in paper bags, milk, water; all the medicines you will require, and ice; wrapping the ice in flannel or newspapers will keep it from melting, and a hat-pin makes an excellent and noiseless ice-pick. A large tin pan enveloped in a blanket will make a serviceable refrigerator in which to keep your ice, broth, milk, and water.

The mattress is covered by a sheet stretched lightly and tucked firmly as far under as possible. Another sheet called the draw-sheet, is also used under the patient. This is put on with the length across the bed, taking great care to have it tight. When it is necessary to protect the mattress, a rubber sheet is placed between the lower and draw-sheets. White, double-faced rubber, is the nicest for home use. In cases of emergency, several thicknesses of newspaper may be used until something better can be obtained.

The heat of the blood is ascertained by means of the clinical thermometer. These thermometers are self-registering, and vary in delicacy, the finest ones registering in one minute; others in three to five minutes. The Hicks thermometer is recommended as one of the best. The temperature is taken in the mouth, or armpit, care being taken to shake down the mercury to 95 degrees. Never take the temperature of a delirious person, or a child, in the mouth.

When nursing contagious diseases, take sufficient sleep and rest, but never in patient's room, as it is when the muscles are relaxed, as they are when resting, that the greatest danger of infection comes. A daily walk in the fresh air is necessary, also a bath daily, with



Bridge, Grand Cascapedia River, Quebec

rough road, which shows no sign of improvement since our passing in the morning.

Home Nursing.

[A paper by Mrs. G. E. Godkin, of the Soperton branch of the Women's Institute.]

Sunshine, pure, fresh air, and freedom from noise and odors, are the principal things to be considered in choosing a sick-room. When possible, it is advis-

keep the undersheets drawn tightly enough to prevent wrinkles. The bed should be twenty-five inches in height, and if it is not, it can be easily made so by placing heavy blocks of wood under each leg. This is especially necessary if the patient is likely to be long in bed. The trouble of doing this is well repaid by the convenience of lifting and working over the patient.

The hair mattress is by far the best, the feather one the worst, as it is too heating, and, when occupied, it is im-



Scene on the Grand Cascapedia River, Quebec.

able to have a room with a southern exposure. If there is a fire-place in the room so much the better, as a chimney is an excellent medium for ventilation. Despite the fact that a sick-room at the top of the house gives many steps to climb, it is much better to have it there. It is further from noises, and the air is generally purer. Only necessary articles of furniture should be retained. All draperies and upholstered furniture should

possible to make the bed properly. The bed should be placed far enough from the wall to have free access on all sides, and care should be taken to avoid having the light in the patient's eyes. The best plan is to have the window behind the bed, then more sun and light can be admitted without disturbing the patient. It is a great mistake to keep a sick-room darkened. Rocking chairs should never be permitted in a sick room, as

a change of clothing at least three times a week. The clothing must be disinfected.

When working over the patient, never stoop so that you inhale her breath; never kiss your patient. Before meals, wash and disinfect your hands, rinse your mouth with a solution of listerine, and never eat in the patient's room. The nursing of infectious and contagious diseases is the same as in all other cases of fever. Always remember that vasoline applied to the parched lips will give great relief, especially to typhoid patients. In giving medicine, always give exactly what the doctor orders, and always give it on time.

Never give medicine without reading the label, and do not use spoons for measuring, as they are never accurate.

Small graduating glasses can be bought at any drug store for ten cents. The bottle should always be rechecked immediately after use, and all poisons should be marked as such, and kept under lock and key.

The Windrow.

It is now asserted by physicians that infantile paralysis is spread by the bite of the stable fly.

A painting, "Dancers," by the French artist, Degas, was recently sold in Paris for \$87,000, the highest price ever paid for a work by a living painter. It will probably be added to the collection of Mrs. J. M. Sears, Boston. At the same sale, Goya's "Spanish Woman," was sold to an Irishman, Sir Hugh Lane, for \$31,240. The Degas canvas was 2 feet 3 inches long, and 2 feet 2 inches broad.

The Woolworth Building in New York, the tallest in the world, is 750 feet, or 51 stories high.

"Anna Boberg, a Swedish artist, the only woman represented at the recent exhibit of Scandinavian art in New York, sought in vain adequate expression for the artistic in her soul, until, acting upon a happy inspiration, she cast her lot among the simple fishing folk of the North. There, beyond the Arctic Circle, she lives in the Lofoten Islands, tossing about in rude fishing craft, or, enveloped in sealskins, painting in the open the salty studies of snow-ribbed mountains plunging into the waves, and ribboned sails putting out to sea, for which she has become famous."—Literary Digest.

"Long before Thomas A. Edison had become widely famous, in other words, when in 1877 he was engaged in developing and improving the telephone, he noticed that in the transmitter, which has since borne his name, when the voice was directed against the face of the disk, the vibrations would cause the pin attached to prick his fingers, or indent any soft substance held near it. He stored this fact away in his mind, but it suggested nothing of special interest to him. Even before that time he had perfected an invention for the automatic repetition of telegraph messages, consisting of an apparatus by means of which the dots and dashes of the original message were recorded in a series of indentations on the strip of paper which followed afterward could be fed into a sending machine, and thus the famous inventor recorded another link unconnected but important. An assistant of Edison, in speaking about the talking machine, once said: 'I remember that Edison had been working at his bench in the laboratory nearly all day, silent for the most part. Quite suddenly he jumped up and said with some excitement, "By George, I can make a talking machine!" Then he sat down and drew the designs of his proposed machine on a slip of yellow paper. I don't think it took above ten minutes altogether.' A model of this machine was made within thirty-six hours, at a cost of \$8.

"It was fitted with tin foil, and Mr. Edison, turning the handle, spoke into the mouthpiece the nursery rhyme beginning, 'Mary had a little lamb.' Then he set the recorder back to the starting place and again turned the cylinder. To the astonishment and even awe of

everybody, the machine began to repeat, in a curious metallic but distinct voice, 'Mary had a little lamb.'—American Exporter.

In all his writings, Dr. Woods Hutchinson emphasizes the conditions essential to wholesome living. These are abundance of simple, nutritious food, well-heated and well-ventilated quarters in home, school, and shop, and daily exercise in the open air. "And the best way," he says, "to ventilate yourself is to turn yourself out of doors frequently. No system of ventilation that has yet been devised, however ideal and perfect in every respect, has ever been able to make it wholesome for a child to remain indoors for more than an hour at a stretch, or an adult for more than three hours, except when asleep." There are intelligent and progressive housekeepers everywhere who know the conditions that make for wholesome living; the crying need is that the number of such should be greatly increased. No longer should our physical well-being be regulated to realms of luck and chance; it rests upon the knowledge and observance of natural laws, in the keeping of which there is great reward.—Boston Cooking School Magazine.

Ten Books Every One Should Read.

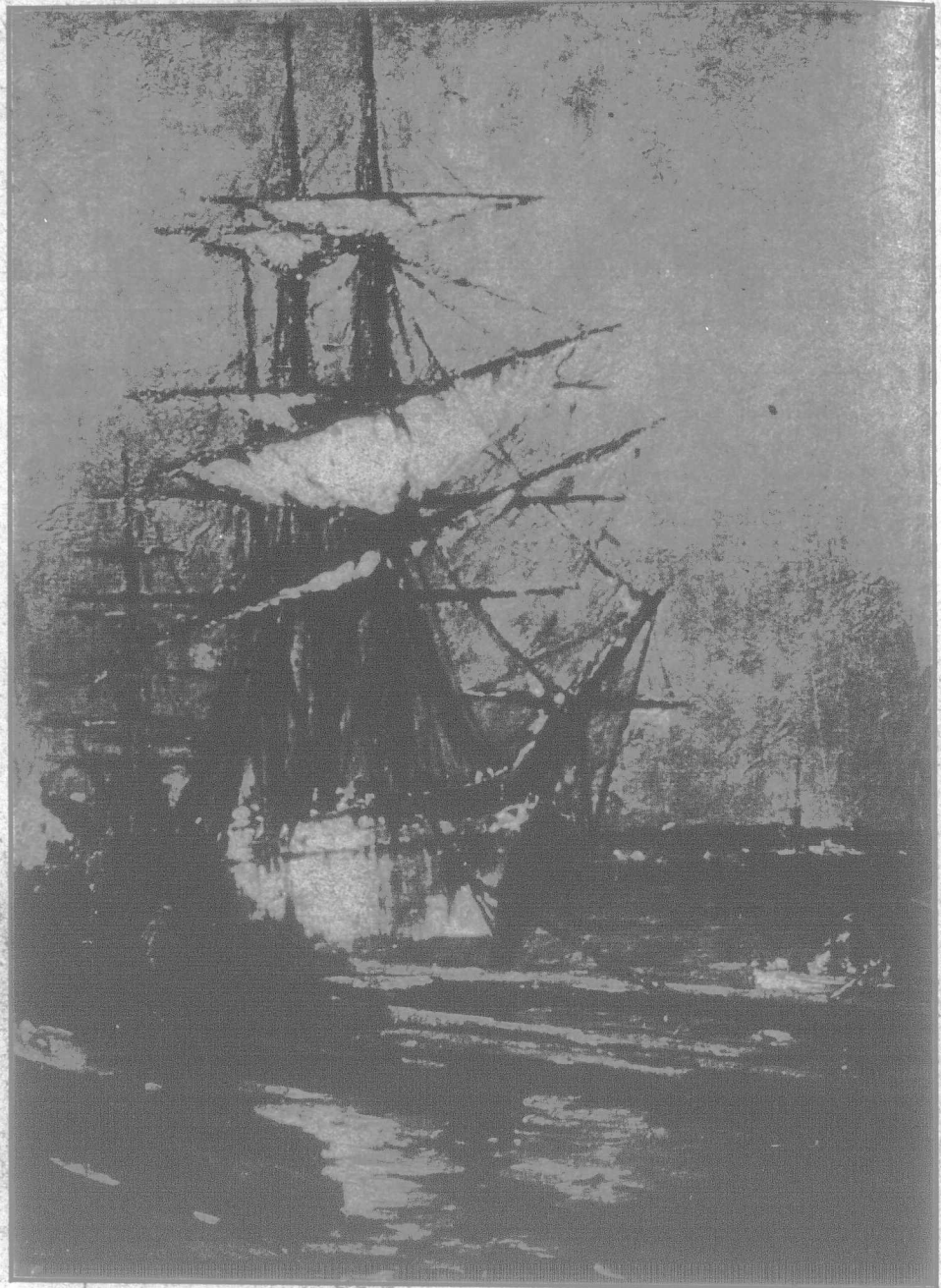
[A paper given by Mrs. Chas. Hancock at a meeting of the Starryville Branch of the Women's Institute.]

In considering the subject, "Ten Books Everyone Should Read," the first problem that confronted me was, "What is meant by everyone?" "Of the reading of books," it has been said, "there is no end," and from the many adapted to such varying needs and conditions, I have endeavored to choose ten which we, I think, as members of the Women's Institute, should read.

First of all stands pre-eminently the Bible. In it we find help and advice for all times and occasions, and, looking at it from a practical point of view, where can we, as present or prospective housekeepers, find better morals to copy than Martha the careful; Dorcas the charitable, or Hannah the devout mother?—while Solomon's perfect woman spoken of in Proverbs, 31st chapter, may well be copied by each one of us. We all remember the description, beginning, "Who can find a virtuous woman? for her price is far above rubies," and leading up through a list of housewifely virtues to the climax, "Favor is deceitful and beauty is vain, but a woman that feareth the Lord, she shall be praised." Surely, with all our boasted twentieth-century advantages, we cannot produce more perfect specimens of womanhood than the one here pictured.

Next to the Bible stands, in importance, I think, some reliable history of our own land. It always seems a pitiful thing when anyone, man or woman, can answer glibly almost any question on, say, the price of stocks, or the latest trimming for spring hats, but on matters relating to the growth of our own fair Dominion, is obliged to maintain a painful silence. I know of nothing in the way of literature more fascinating than Dr. Withrow's "History of Canada." From cover to cover it is filled with information told in such an interesting manner that when one has started reading one is loath to lay the book down. So fascinating is the story of the early Indian occupants, the long struggle for mastery between the French and English, the final supremacy of the latter, and the attempts to found and develop a colony in this country, until our "Land of the Maple" became what she is, the fairest jewel in the Crown of the British Empire. The only fault one can find with the book is that there is not enough of it. The work, as it stands, only deals with Canadian history as far as 1876, or shortly after confederation, but by supplementing it with current history as found in our newspapers and magazines, we can have a pretty intelligent idea of the growth and progress of Canada, our Home.

Most of us, I suppose, enjoy books of travel, and I know of none more interesting and instructive than one published a few years ago by E. F. Knight,



"Evening Glow."

From a painting by F. McGillivray Knowles, R. C. A. Exhibited at the Royal Academy Exhibition, Ottawa.

"With the Royal Tour." It was written by one of the correspondents appointed to accompany the present King and Queen in their recent tour around the world. After reading it, I realized, as never before, how grossly ignorant most of us are as to the extent and nature of the vast British Empire of which we form a part. It follows the course of the royal party, describes the countries and principalities visited, touches in a few words on the receptions accorded the regal visitors, and, I think, makes one feel close akin to our brothers in India, Ceylon, Australia, and the other British Colonies.

There is a small book, occupying but little space on any book-shelf, but which has proved of large value in many homes, and which I think should be within the reach of all. It is called, "Emergencies, and How to Meet Them," by Dr. Dulles. It deals in brief, concise manner, with such subjects as poison and antidotes; treatment of drowning, sunstroke, etc.; removing foreign bodies from eye, ear, etc.; treatment of sprains, burns, and so on. No doubt most of us know these things, but the difficult matter is to remember them at the time when they would prove most useful, and it is a great comfort to have close at hand something that will tell us exactly what to do with the least possible loss of time.

Another tiny book that must be valued for its real worth rather than its size, is "The Care and Feeding of Children," by Dr. Emmet Holt. While we may not all be mothers, we are all brought more or less in touch with children at one time or another, and none of us can be too well informed as to the proper method of treating them. Mothers, and older sisters, will find lots of information, while the older mothers who have served their apprenticeship, will at least find amusement in criticising what no doubt some of them will term the new-fangled way of raising babies. The

book is in the form of a catechism, and questions are asked and answered on such subjects as baby's bath, clothing, etc.; the care of eyes, mouth, etc. It also deals with the more common ailments of children, colic, earache, convulsions, and so on, and considerable space is devoted to the important subject—the artificial feeding of infants. When one thinks for a moment of the hundreds of little lives sacrificed each year through ignorance or carelessness on this vital subject, one cannot help wishing that this little volume might be in the hands of every woman, especially every mother who is unfortunate enough to be obliged to resort to this unnatural method of feeding her little ones.

There is an old saying that "all the world loves a lover," and it is equally true that all the world, or, at any rate, all the feminine half of it, loves a love story, and it is right that this should be so. In this prosaic work-a-day world, it does us good to forget, once in a while, the sordid cares and worries of life, and live for a time amongst the rose-colored scenes of romance. The works of fiction are quite right and proper in their place, provided that taste is not indulged at the expense of all solid reading. In the line of fiction, I think I never read a cleaner, sweeter love story than the one Mrs. Craik has told us in her inimitable "John Halifax, Gentleman." If my choice of fiction were to be restricted to one volume, it should certainly be that, for one might look far before finding a purer, more lovable character than the heroine, Ursula March, or a nobler type of man than John Halifax, honest as the day, and proud to a degree, and knowing no other fortune than the honor of being able to write his name, "John Halifax, Gentleman." There are some very dainty passages in the book, and one cannot help feeling refreshed and helped by an hour spent in reading it.

There is one volume that I would like

to place in the hands of all my girl friends. Ruskin's beautiful "Sesame and Lilies." Every one, young and old, would be benefited by reading it. It consists of three lectures, each of which is adapted to some special condition of life. The preface especially is full of advice to young people as to how to conduct themselves so as to make each day a step further on the way to perfection; for, as he truly says, "Every day of your early life is ordaining irrevocably for good or evil the custom and practice of your souls." The first lecture, "Of Kings' Treasures," deals with the choice of books; the second, "Of Queens' Gardens," treats of the place and power of woman, and the education that fits her for that place; while the third, on "The Mystery of Life," centers largely around that passage of Scripture, "For what is your life? It is even as a vapor that appeareth for a little time and then vanisheth away."

Each of us, no doubt, loves poetry in its many forms, and it is hard to choose any one poet who is especially helpful to us as women. To me, it is always hard to choose between our own English Tennyson and the more simple, homelike Longfellow. Each of them has written so much that is helpful that I wish my choice might include both. If I were to read only one, however, I think it should be Longfellow, with his cheery, helpful verses. The short poem, "The Rainy Day," with its comforting message, "Be still, sad heart, and cease repining, Behind yon cloud is the sun still shining," is enough to drive away the worst attack of blues. It would be useless to attempt to describe to anyone the beauties of Longfellow. To read him is to love him, and the proof is, that once having read, one comes back again and again, finding each time fresh beauty.

If we were to consult our husbands and brothers as to what books to read, no doubt some of them would advise the cook-book, and, all joking aside, we could do worse at times than to follow their advice. While some certain cake or pudding that we make may be almost perfect in its way, we must not forget that even the most perfect article may become tiresome if too often repeated, and that a change may be appreciated. A reliable cook-book is a great help to all of us. Which of us does not know how confusing it is to be told by some old housekeeper to "put in flour till it feels right," or to "cook till it looks done"? We may not all be gifted with the knowledge or experience which enables us always to know just when a thing is right, and at such times a book that says in explicit terms just what is required, is a great help. Haphazard cooking may occasionally turn out all right, but, as a rule, there is a series of wasteful failures before reaching the goal of perfection. It would be hard to choose any one particularly good cook-book, as so many are published containing, besides recipes, much useful information dealing with the choice and preparation of food.

No doubt we have all heard the story of the old woman who, in order to appear learned, used to borrow books from her minister. Becoming suspicious that the books were simply kept for a time and then returned, the minister lent her an ordinary English Dictionary. When it was returned, he asked his literary friend how she enjoyed it. "Fine, sir," she replied, "but I found it a little hard at times to follow the thread of the discourse." While we might have the same trouble, it might not do any of us harm to pay a little more attention to our dictionaries. In our reading we are constantly running across words of which we are not exactly sure. Two minutes spent then in consulting some standard dictionary, we will find time well spent, and we will be amply repaid for our trouble by our growing familiarity with this language, which we all use more or less correctly every day of our lives.

To choose ten out of the many hundreds of books already published is indeed a difficult task, but these are ten which have proved helpful to me, and which I think are worth consideration from every member of the Women's Institute.

Something About Organized Effort.

In "The Farmer's Advocate" of 19th December, "Junia," in her Ingle Nook pages, gave a delightful synopsis of the happenings at the big Convention of the Women's Institutes, lately held in Toronto. Whether as a retrospect of the past, or as an inspiration for the future, it is encouraging reading for every woman who has already joined hands or intends to do so, in those sisterhoods of loving service, which, while working on distinctive lines, and in various sections of the Dominion, are, when combined for organized effort to suppress evil or to promote good, known to us all under the one comprehensive title of the National Council of Women of Canada. When women join hand in hand to better conditions for those whose lot is cast in less favorable conditions than their own, who can stay them? Please look over Junia's columns, on page 2238, and see if by being on the watch-tower for opportunities of service, you may not be able to take a very helpful part in blocking the but too rapid progress of at least one or two of the many serious evils which have already gained such a foothold in our land. For instance, can you not do something to help in one of the most important committees of National Council work, that of the suppression of objectionable printed matter? Whilst hitherto inquiries seem to have resulted largely in blaming other countries for the influx of such detestable sources of contamination, and the post-office authorities have been the official means of destroying tons of the poisonous stuff when seeking entry into Canada, there seems to be traitors within our camp, and one firm of printers alone has been found to have issued in the past year over 50,000 indecent post cards. Should such come your way, please do not just throw them into the fire, but communicate the fact to the Central Convener of that Special Committee, Mrs. Liddell, 43 Lorne avenue, Montreal. Organization has done much towards getting at the root of this and other kindred evils, but it is the duty of the individuals which form that organization to "watch out" for the information upon which results depend.

In the matter of the feeble-minded, late investigations have resulted in ascertaining that, to-day, in Canada, there are 6,000 known cases of that class of unfortunates recognized as feeble-minded, probably a very imperfect computation after all, owing to many difficulties met with in seeking to arrive at a correct conclusion, many relatives concealing the fact that they number such afflicted ones amongst their families.

To effectually apply a remedy for any disease, the medical man must be told of every symptom already manifested by the patient, so if the curse of feeble-mindedness is ever to be effectually stamped out, the sources through which it is promulgated must in the interests of the present generation, and generations yet to come, be discovered, and, where possible, rendered innocuous.

Statistics prove what a menace to the physical and moral well-being of the people of Canada is the existence of this mental disease. The records of our charitable institutions show how many of their inmates come from that class of unfortunates, whilst it is a well-known fact that a very large percentage of the criminals in our jails come from the ranks of these irresponsible, "the most pitiable class in the world." Feeble-minded girls, many of them at a pitifully early age, are the easy prey of evil-minded men, and are thus the cause of bringing into the world children as mentally unfit as themselves.

In one poor house alone, as the result of the unprotected state of one feeble-minded woman alone, there are five children, the eldest not yet eight, and all feeble-minded! Make for yourselves a little arithmetical calculation, and you will the better realize the absolute ne-

cessity for a custodial care by a paternal government of these unhappy people. "Nothing," it has been said, "could be more economical, more sensible, more patriotic, or more kind, humane, Christ-like, than this. We pay the bill now, not only for the maintenance of the feeble-minded and their children, but for the crimes they perpetrate, and the idleness, and worse, in which they live. We put them into institutions now, but at the wrong time, and in the wrong place. There is no use locking the stable door after the steed is stolen." The voice of the women of the land, through their organizations, has been raised in appeal to the authorities of our land to find some solution for one of the most serious problems of the day, and until a plan of the custodial care of these unfortunates is found, every woman should continue to raise her voice on their behalf.

Junia, in allusion to this subject, and in direct appeal to the members of the Women's Institutes, says with emphasis, "Think of it—the stamping out of feeble-mindedness from our country within a generation! We hear much of eugenics in these days, and are likely to hear much more. Here is one definite line in which the women of Canada can distinctly contribute to the uplift of the race in Canada."

Amongst many good things said on the occasion of the annual meeting of the National Council of Women, held in London during the last summer, was the following, by Mr. Coote, a distinguished English philanthropist, whose more definite message perhaps was to warn our Canadian people of the growing and insidious dangers of what is known as the white-slave traffic. "Organization," he said, "is what the world needs most to-day. Individual workers, if they would achieve all they are trying for, should keep close together, and this is the great advantage of such an organization as the N. C. W. A snowflake is an insignificant thing, but an organized snow-drift, made up of millions of such little flakes, can block a mighty train." And it is some such an accumulated snow-bank, made up of its myriads of such seemingly powerless atoms, which is needed in Canada to block the progress of so much that is harmful in our midst.

Let none who can lend us a hand refuse to do so, for this is our day of opportunity. H. A. B.

Hope's Quiet Hour.

Glorify Your Father.

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

How familiar those words are, and how little they are regarded! The first part is easy. We are all willing to let our best points be seen, and unwilling to make public our defects. Why? Is it that men may glorify God, or that they may respect and admire us? The test of every act is the motive behind it. Our Lord has warned us that righteousness done before men—to be seen of them—will have no value in the eyes of Him Who is the only righteous Judge. A life may be crowded with "good works"—long prayers, gifts to the poor, untiring service—and yet it may be swayed and inspired almost entirely by self-love, or the love of the world. The ruling passion will grow stronger and stronger each year, so—if we value the opportunity of this earthly life—we must be very honest with ourselves, very frank in our answers to God's searching questions. We can't afford to cover up our motives, for if we are ashamed to confess them before God—Who knows them quite well already—or to face them ourselves, they may spoil the whole beauty of our lives. We may be self-deceived, heaping up a growing pile of apparently beautiful "good things," which win for us the praise of men, and finding ourselves at last with scarcely one act of real loving-kindness which we dare lay at God's feet. When a man's reputation is good, and all men speak well of him, it is very easy to think that his spiritual condition is satisfactory. God, Who looks at the heart,

may see there conceit, selfishness, the love of worldly praise and admiration, but nothing precious in His sight.

"Why don't you give away a million or two?" said one man to another.

"Why, that's the difficulty," was the answer. "It isn't easy to give away a million in such a manner as to win lasting reputation and make it worth while."

That little conversation never took place, of course. People don't confess such motives even to themselves, but they may be there, all the same, slowly poisoning the springs of life. Some philanthropists and busy church-workers may, in God's sight, be stamped with the hateful name of "Hypocrite." While there is time, let us look to ourselves and see whether we are not more willing to do good works which other people will probably know about and admire, than those which no one but God is ever likely to hear about. Perhaps our motives are mixed. There may be some real love for our fellows, and some desire to glorify God, mixed with a wish to gratify self-love. Perhaps we have been very active in helping someone, and that other person has made us feel vexed by showing little or no appreciation of our efforts. We did not work for thanks, but it is irritating to have no notice taken of our kindness. It seems to be wasted. If it was prompted by love to God or man, it could not have been wasted, for God has joyfully accepted the gift, and man has been helped by the service. But the fact that we were hurt in our feelings by the ingratitude, proves that the reward we were seeking was a selfish one. Instead of feeling pleased with ourselves for the nobility of our own action, we should go down on our knees and ask forgiveness for the selfishness of our ambition.

Instead of lamenting the narrowness of opportunity, and thinking discontentedly of the splendid things we should like to do if only we had a chance, let us remember that everyone has the same chance to live splendidly. Two men may be equally heroic in reality; but one may astonish the world and himself by some deed of daring which came in his way, while the other may fancy that his years of quietly doing his duty are very commonplace. God does not think them commonplace if they are inspired by unselfish love. His glory can shine through such transparent lives, and give light to all around.

Who are these that, linking hand in hand,
Transmit across the twilight waste of years
The flying brightness of a kindled hour?
Not always, nor alone, the lives that search
How they may snatch a glory out of heaven,
Or add a height to Babel, oftener they
That in the still fulfilment of each day's
Facific order hold great deeds in leash,
That in the sober sheath of tranquil tasks,
Hide the attamped blade of high enterprise,
And leap like lightning to the clap of fate."

One sad result of a habit of looking out constantly for the approval of men, is that the inspiration usually fails one when the chance to do a splendid deed arrives. When the great aim of life is to be admired, self-love is really the ruling passion; and selfishness will make us shrink when danger tests us. The real character will come to the top, and we shall stand self-revealed.

It is necessary to cultivate the habit of love which "seeketh not her own," if we want to have it ready for use in a sudden emergency. We never know when it may be needed, and only God knows how we will act when the emergency arrives.

A few years ago there was a terrible railway accident, and more than a hundred people were badly injured or killed. A frightful storm of sleet added to their sufferings. The next train was due in five hours, and it seemed as though no help could be obtained before that time. But a telegraph lineman was in the baggage car, with his satchel of instruments strapped to his shoulder. He crawled out from under the wreck, terribly injured, but conscious. "Out in on the telegraph!" he shouted, but he

was the only one who knew what to do and how to do it. Though both legs were crushed, and he was bleeding to death, they hoisted him up, and he cut in on the wire and pounded his key for ten minutes before he got an answer. Then he sent the life-saving message: "Number 17, terribly wrecked . . . send hospital train." Tenderly his crushed body was cared for by his comrades, but he had passed away before the hospital train had been rushed to the spot. He saved others, careless of his own dying agony. Only God knows how he had been trained by years of unselfish service for that glorious death.

God gives us the schooling required, and every act of service, done for His glory and not for our own, will make us stronger. We can't afford to waste His precious schooling by working for our own glorification.

We want to improve, therefore let us try to be glad when other people find fault with us. If the faults are there, we want to get rid of them; and our task is made easier when they are pointed out to us. A leader once said about a girl he had been carefully observing: "She is a pretty good worker, but she can't bear to be criticised; therefore she will never be first-class." When criticism angers us, and we are too thin-skinned to endure a shadow of blame without vexation, it must be because we care more about reputation than character, would rather be admired than learn how to climb higher.

When ridicule, or even a little good-natured teasing can turn us from the way we feel to be right, it is a proof that we are more eager to win the praise of men than the praise of God. As a matter of fact, the people who are always afraid of doing something that is not "quite the thing," or of wearing something that is "not correct," or of saying something which may be thought "out of date," are seldom respected or admired. Everyone respects a man who has the courage to act as he thinks right, no matter what his fellows may say. It is not easy to stand alone. The other day I saw a young girl standing, leaning on crutches, where others were kneeling at the Communion rail. It was a small act of courage, perhaps; but it made her appear conspicuous, and she was too shy for the position to be an easy one. It was an outward sign that she was brave enough to stand alone. She could not kneel like the people beside her, and Christ Himself had told her to come to the Holy Communion. By simple obedience, she glorified Him and inspired others to obey Him, too.

"If you've got a song in you—sing it. Though all the critics jeer, Out from the soul of you bring it, And those who need will hear. Though some say 'it's a trite one,' And loudly their laughter fling, Your song will reach to the Right One. Lo sing!"

DORA FARNCOMB.

"THE NEW PUBLIC HEALTH."

The Farmer's Advocate Bureau of Public Health Information.

QUESTIONS, ANSWERS, AND COMMENTS.

Conducted by Institute of Public Health, London, Ont.

[Questions should be addressed: "New Public Health, care of 'The Farmer's Advocate,' London, Ont." Private questions, accompanied by a stamped, self-addressed envelope, will receive private answers. Medical treatment for individual cases cannot be prescribed.]

Most people think that health officers are "stuffy" people, always trying to find some fault with the backyard or the drains, or criticizing the cleanliness of the house, the neatness of the children, the order in the kitchen, and sniffing for bad smells wherever they go.

And this is just what the old-fashioned health officer was, twenty or thirty years ago. If he found any old rags under the cellar door, or a deposit of bones that Fido had half-buried in the garden, he was delighted, because he thought he had found a leak in the health of the community that he could stop. Very promptly and scornfully he

would remove those smelly things to some safe place for burial or burning, and go home, conscious of a public duty done faithfully and well.

But this picture of a health officer is no longer correct. Bad smells are disagreeable enough to all of us, and may nauseate some of us. But they do not produce typhoid fever or diphtheria or tuberculosis. Nor does the dirty thing which makes the bad smell produce these diseases, or any other, unless it has the actual germ of that particular disease on it or in it. This very seldom happens, unless the dirty thing came from a patient having that particular disease, or handled by someone who had the germs in them or on them.

This is not a plea for dirt. Dirt is disgusting, disagreeable, possibly harmful in minor ways. But dirt does not breed disease in the ordinary sense, although it helps to breed flies, which may carry disease germs if they get the chance, and it does not develop of itself the germs of smallpox or scarlet fever, or such like. Even should such germs, shed by a patient or infected person, get into or on ordinary dirt, they do not breed and flourish there.

Many germs do, but not disease germs. Disease germs cannot stand roughing it in or on casual dirt. They are delicate little plants, and require special food, and a special temperature in order to grow, and their requirements are seldom met in nature outside the human (or animal) body. Hence it is that the new public health, although objecting to dirt for its own sake, does not object to it as a cause of disease. It is infected persons, not infected things, that do most of the damage.

True, the germ of some diseases in humans will grow and flourish in animals as well, and vice versa. Glanders in horses is due to a tiny germ or plant which grows in the horse's nose, and often in his lungs; sometimes in his skin, producing then what is called "farcy." This germ of glanders in the horse may grow also in the human; and when a horse, with glanders in the nose, snorts into a man's face, the man may get the germs into his nose or mouth, and so develop glanders himself. Also the same may happen if he gets the discharges from a glandered horse's nose, or from the skin in "farcy," into a cut or scratch.

Fortunately, the human body is not, as a rule, a good breeding ground for this little germ or plant that causes glanders in the horse. Because of this, most of the glanders germs that enter human bodies from glandered horses die out, and no harm follows. But every now and then some man caring for glandered horses, and getting the germs from them, develops glanders himself; and almost always dies, within a week or two.

We know that the same sort of thing is true of the germ of cattle tuberculosis. This germ, when it reaches humans, often fails to grow, especially if the person who receives it is over sixteen years old. When it reaches children, however, it finds them better soil, and about one-fourth of the children who die of tuberculosis owe their deaths to the germs they received from cattle, through milk from tuberculous cows, and from the manure of tuberculous cows, when, as almost always happens, manure gets into milk.

Tetanus (lockjaw) is also due to a germ—a germ which finds its chief breeding ground in the intestine of some horses, and sometimes in cows. This germ does no harm in the intestine, but if horse manure, etc., containing it, enters a wound, especially a deep, narrow wound, like a puncture from a nail, the germ may develop in the body and produce lockjaw. Both man and animals may contract lockjaw thus. Hence the danger of soil-contaminated wounds, when the soil is well manured, especially with horse manure.

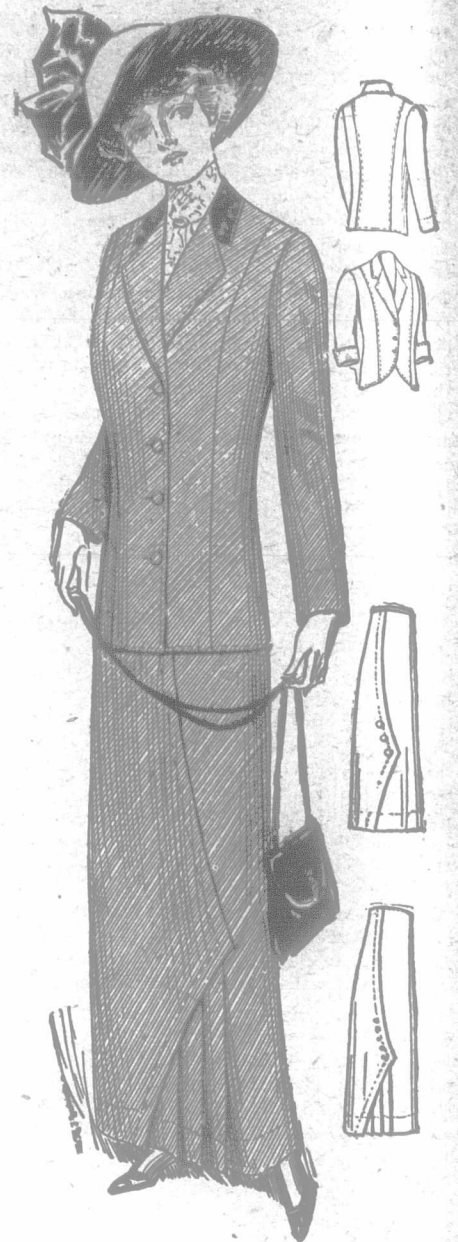
"Cleanliness is next to Godliness." True, and the New Public Health ardently advocates both cleanliness and Godliness. But neither cleanliness nor Godliness will prevent a child, exposed to measles, say, from catching it. The child of the archbishop and the child of the burglar are alike in this—dirty or clean, Godly or un-Godly, neither can suffer an infectious disease unless the germs enter the body—and both have equal chances to develop the disease, if

the germs do enter. To prevent disease, cleanliness helps, but only if the cleanliness includes exclusion of the germs.

"The Farmer's Advocate" Fashions.



DESIGN BY MAY MANTON.
7640 Norfolk Coat for Misses and Small Women, 14, 16 and 18 years.
7580 Six Gored Skirt for Misses and Small Women, 16 and 18 years.



DESIGN BY MAY MANTON.
7442 Single Breasted Coat, 34 to 44 bust.
7477 Four-Piece Envelope Skirt, 22 to 30 waist.



DESIGN BY MAY MANTON.
7365 Girl's Dress, 10 to 14 years.



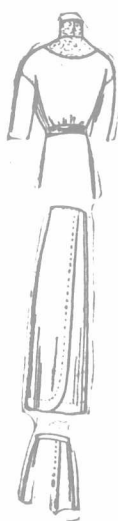
DESIGN BY MAY MANTON.
7593 Blouse Closing in Front for Misses and Small Women, 16 and 18 years.
7224 Two-Piece Skirt for Misses and Small Women, 14, 16 and 18 years.



DESIGN BY MAY MANTON.

7174 Double Breasted Coat for Misses and Small Women, 14, 16 and 18 years. 7224 Two-Piece Skirt for Misses and Small Women, 14, 16 and 18 years.

MANTON, Co., Skirt



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7532 Blouse with Long Shoulders, 34 to 40 bust. 7507 Four-Piece Skirt, 22 to 32 waist.

MANTON, Co., Blouse and Skirt

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The Beaver Circle.

Our Senior Beavers.

Dear Beavers,—Some time ago we read an account of a new society for boys, called the "Boys' Own Society," organized at New Liskeard, and at Laurel, Ont.; by this time, no doubt, it has made its appearance in several other places.

The story was so interesting, and the Society seemed to promise so much pleasure and profit for the boys, that we wrote to the organizer, Rev. A. W. Hone, 615 Church street, Toronto, for further particulars.

He has very kindly written to us at some length, and so we are able now to tell you something worth while about this interesting "B. O. S."

The object of the Boys' Own Society, Mr. Hone tells us, is to "promote the moral, intellectual, social, and physical welfare of its members"—which simply means, as most of you will understand, that it aims to make boys better, brighter, stronger, more manly, more capable, and to give them a jolly good time besides.

It takes in boys from all churches, and a very small fee (at New Liskeard, and, no doubt, at other places, this is but five cents a month) is charged to cover running expenses.

All the boys who join sign a pledge, which is as follows: "I promise, God being my Helper, to keep secret the signs, passwords, and ritual of the Boys' Own Society. I will endeavor to further the welfare of the Society and its members, by doing the work I may be called upon to do, and by treating my fellow-members as brothers. I do not approve of drinking, gambling, smoking, nor of impurity of speech or action, and will strive at all times to honor my parents, my country, and my God."

All this, you may imagine, is very much upon the lines of a grown-up folk's society, and you may think it still more so when you know that there are passwords, changed after every meeting, in connection with the "B. O. S." If you wanted to go to a meeting, you see, you could not get in unless you knew the password. It was not much wonder—was it?—that one little fellow who joined was heard to say, "Gee, we've got a lodge how, and it's just like the Masons, too!"

Great stress is placed upon the motto, "Clean Boyhood, Strong Manhood," and seats are reserved for the members of the "B. O. S." in the various churches.

Each meeting is opened by repeating part of the ritual, which is not here given, and singing the Society song, "Marching to Manhood." The closing exercises include repeating a prayer, and giving the fraternal yell.

Oh, yes, there is a "yell,"—and you know how boys like yells. Here are two of them:

"B. O. S.! B. O. S.! We are the boys of the B. O. S.! Sturdy and strong! Sturdy and strong! We'll stick to the right and smash the wrong!"

"Who are we? Can you guess? We are the boys of the B. O. S.! Are we in it? I should smile!—We are in it all the while!"

There is also a Society pin.

Now, for the other side:—The boys meet frequently for good-time and good-work meetings. At these there are usually a programme and a debate, the subjects for the latter, in a rural district, being often those of especial interest to the farmer. Here are some of the subjects that have been given: "Resolved, that wood has been of more use to the world than iron." (A subject, you see, that must lead any boy to take an interest in the protection and development of the wood-plot.)

"The best method of preparing the ground and sowing wheat."

Spelling matches are also held, and, once in a while, an open meeting is given, to which the ladies of the neighborhood bring cakes and pies.

The officers of the Society are, of course, with the exception of the Honorary President and the Superintendent, all boys. They are—President; Vice-President; Secretary; Treasurer; Guard, who "minds" the door, admitting or those giving the password; and organist. These are elected by nomination and ballot. Two ushers are also appointed monthly to take care of the room and keep order.

when put in the silo, it needs water put on it from time to time to keep the corn from spoiling.

C. W. HISEY (age 10), Langman P. O., Ont.

Senior Beavers' Letter Box

Dear Puck,—I intended to write as soon as I received my prizes, but something prevented me from doing so.

Thank you very much for giving me those prizes. It seemed as if the prize was too much for just making the doll's dress. "The Strike at Shanes," which is the name of the book I received, was a very nice one indeed, just the kind of book I like to read. I like reading about dumb animals best of all books, except one. The other one was also a very nice book. It was nicely bound, and is a very nice story. The morning I got them I could hardly wait until I got to the house, I was so glad. All the school-girls say they are going to try for one next time.

I had not expected getting any prize, and when I saw my story printed I was overjoyed.

We are going to move shortly to another place, and the other day the school-girls gave me a black-velvet purse. I am very proud, indeed, of it, as proud as of my books. I am going to keep all my books and have a library. Don't you think that will be nice, Puck?

Well, I think I must soon close, or you will be saying, "I wonder if she ever will stop writing this trash," and into the w-p. b. goes my letter, but, however, I hope that this will not be true. So, bye-bye to all, wishing the Beaver Circle every success.

WINNIFRED M. BAKER.

(Age 13, Sr. IV.)

R. R. No. 1, Southwold, Ont.

P. S.—How many new subscribers does one need to have in order to obtain a flower and bird guide, as I see many birds that I do not know the name of, and would like to know. Hope you will please tell me.

For two new subscribers, at \$1.50 a year each, we will send you a beautiful large bird book, filled with beautifully-colored illustrations. I hope you will be successful in winning one of these books, Winnifred. They are really fine. Yes, I think you are very wise in beginning to collect a library now. You will find making a collection of books



Church at Laurel, Ont.

Which has a "B. O. S." in connection with it.

The colors for the Society are blue and white, and the members are supposed to salute one another with the fraternal sign when they meet.

Now, I wonder if you are interested enough in this "B. O. S." to want to have one in your own neighborhood? If so, try to get your parents or your school-teacher or clergyman (all, if possible) interested in the matter, and ask them to write, for all further particulars, to the director of the movement, Rev. A. W. Hone, 615 Church street, Toronto. Mr. Hone says he cannot reply to each letter personally, but that he will prepare an article, to be published in our pages, covering any questions that may be asked.

A BOY'S IDEAS ABOUT SILAGE.

Reading the letters about silage and silo-filling, I noticed that one man says cattle do not do as well on the grass after having been fed on silage during




Part of Laurel "B. O. S."

the winter, but I have proved, to my satisfaction, that they do better. We fed four cows and two young cattle on silage during the winter, then we turned them out on the grass early in the spring, and in a few weeks' time the two young cattle were fit for beef. The cows did well, too; in fact, we never before had cows to do as well. They all milked well, and were in good condition. One writer said that corn should have no frost, but if a man wants his silage to keep well, he should let it get a little frost. When it is cut and left out a while, the juice dries up, and the silage does not smell. But when it is just cut and put in the silo, the corn has a sour taste and the cows do not like it as well. If the corn is dry

delightful, but be very careful about the kind of books you admit to it.

Dear Puck and Beavers,—I am going to tell you about a pet coon I used to have. One day my father was working near the railroad, and he saw something run along the track, so he went over to see what it was, and it was three coons, one big one and two little ones. He caught the two little ones, but the big one got away. He brought them home, but he had to be careful or else they would bite him. When he got home he put them in the barn, and the next morning one of them was gone; we could not find it anywhere. We called the other one Johnny. He got to be a nice little thing. When Dora and I went "in our bare feet" he used to bite our

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toes, and we used to play with him. Well, I guess I will close with two riddles.

Black within, red without, four corners, round about? Ans.—A chimney.
What is black and white, and read all over? Ans.—A newspaper.

EDIE MAGRIDGE.

Auburn, Ont.

Dear Puck and Beavers,—I thought I would like to write a story. We have taken "The Farmer's Advocate" for a short time, and I like to read the letters in it. They are very nice.

Well, I once had a dog, and his name was Tray, and he had four different colors. His four feet were yellow and white, his body gray, and he had a black spot on his back. He had a white ring around his neck, and a gray-and-white tail. On one foot he had five toe-nails. I guess I will tell you about his tricks. He would sit on a chair; if he was cold, he would get on a chair and put his two front feet on the stove hearth, and hold his head over the stove to get warm; he would sit in the buggy and go for a ride; he would get a rag in his mouth and run around the yard; he would chase me around a chair; he would get in my hand-sleigh and coast down a hill with me.

Tray used to play with a kitten whose name was Dandy Jim. He was a good cattle dog. I liked him very much.

ISABEL TRIMBLE.
Drumbo, Ont. (Age 12, Bk. III.)

Dear Puck and Beavers,—I have never written before. I go to school, and have a mile to walk. I like our teacher fine. My pets are a little kitten, a calf, and a dog. The kitten will sit on your knee and play with your fingers. When the calf sees you coming he will run. I live on a farm four and a half miles from the city of Brantford. My father takes "The Farmer's Advocate," and could not do without it very well. Our farm has one hundred and twenty-seven acres. I will have to close. Hope this will escape the w.-p. b., so good-bye.

ADA WILLIAMS.
(Age 9, Bk. Sr. III.)

Brantford, Ont.

Dear Puck and Beavers,—I have written you four or five times before, and will venture to write again.

Where I am sitting, I am looking at the South Mountain in the fruitful valley of Annapolis.

I love to live in this country, for in the spring there are the gardens to plant, the brooks are flooded, and you can make a raft or go out in a boat and catch fish and sail your little boats in the ditches.

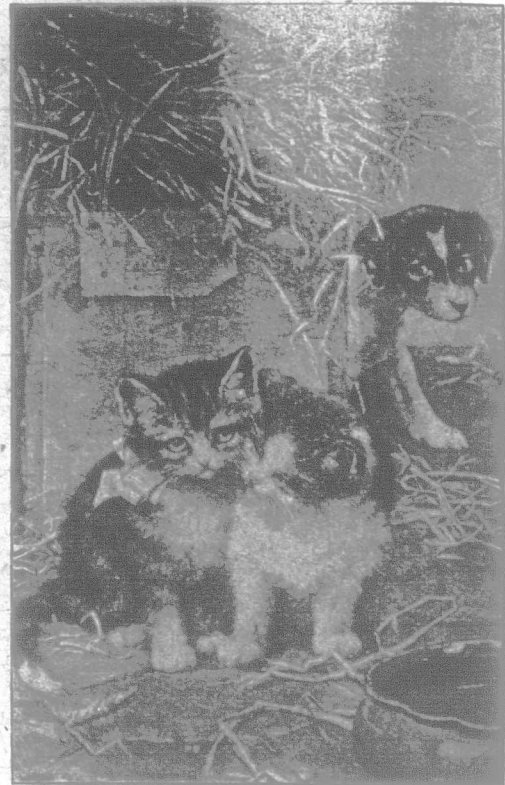
Next comes summer, when you can play ball and go on picnics. In vaca-

jolly things. Please tell me if I am a Junior or Senior Beaver.

CLARENCE FITZ RANDOLPH.
(Age 11, Book VI.)

Bridgetown, N. S.

I scarcely know which you are, a Senior or a Junior Beaver, Clarence. The classes are graded differently in Nova Scotia and Ontario Schools. However, judging from the quality of your letter, I have put you with the Seniors.



I Spy.

Beaver Circle Notes.

Some of the letters that arrived in November must still be held over,—there were so very many, you see.

Edna Farrier, Campbellton, N. B., would like if some of the Senior Beaver girls would write to her.

Will Howard Dixie please write again—a longer letter. Also Willie Avery, Stayner, Ont.

The Mending Basket

SHERARD McLEAY HAS A WORD MORE.

I don't suppose there is, in this whole universe, one unjust law or action which, if held up to the public gaze, would not at once win to itself numbers of supporters—people who would declare that no injustice existed, or, if it did,



A Perilous Path.

tion you can help in the hay-fields, go swimming, go camping, and go "in your bare feet."

Next comes fall, when the men cut their grain and take it to the threshing mill to be threshed. Then come picking the apples, picking up potatoes, and getting ready for winter. The birds fly to the South, and you can go hunting partridges that stay with us.

Next comes winter, the best season of all. I can go to the woods, and I often take my sled with me, and coast down the mountain coming home.

There is fun getting the Christmas-tree, and hanging up your stocking Christmas eve, also buying presents for your companions, and lots of other

existed to such a very slight degree as to be of no consequence—simply because they had seen or felt none of its effects.

Hardly to any two people, of course, is it given to view the same situation in exactly the same light. However, we can all treat each other's views with courtesy, and be ready to admit the good of another's argument.

Because I have tried to show that the life of the average farmer's wife is not one long holiday, as too many appear to think, I seem to have brought on myself the wrath of some of the farmers.

I did not intend that picture to include the lives of every single farmer in the Dominion. I know quite well that there are many cultured homes in the

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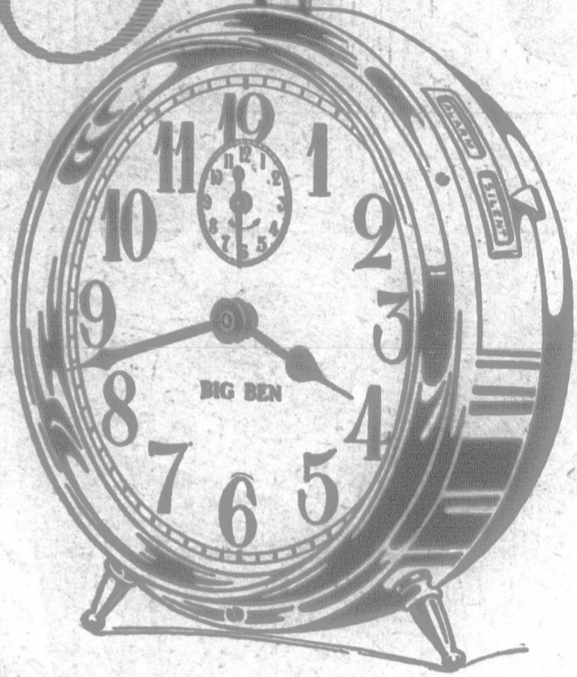
country in which these conditions do not exist. Nevertheless, that picture was a true representation of many farmers' wives, taken from the actual experience of women I have known in this locality and in others, and far from being an impossibility, is an ordinary fact. Nothing is an impossibility when work is to be done, and you are the only one to do it. It is simply wonderful what

you can do when you have to, or when the work is for your own ultimate good. These women do not own "prize mean men," either. (I do not think the name applies to our Canadian men.) A little thoughtless they may be, and a little lacking in appreciation of all the nerve-racking little things which go to make up the day's work of the average household. Let me repeat that message from

"Adeline. If men would only appreciate a little more the help women so cheerfully give them, at the same time leaving their own duties to accumulate, how much it would help. A word of cheer, or a bit of praise will often change a day of drudgery into a day of happiness. Housework, love we it ever so much, is bound to be trying in its never-ending routine.

Some of the recent letters have been more suggestive of loyalty than of anything else, and, while loyalty of each to his occupation is to be commended, it can be overdone. We are wise if we do not shut our eyes to such faults in our system as perchance can be remedied. The number of farmers who keep even one hired girl is very small indeed. There are at least two reasons why this

Big Ben



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Take your choice in Big Ben. He rings either way you wish—five straight minutes or every other half minute for all of ten minutes unless you switch him off. He's two alarms in one.

If you're a light sleeper, turn on the half minute taps before you go to bed. If you sleep heavily, set the five minute call. You can slumber then without the get-up worry on your mind.

When morning comes, and it's announced by Big Ben's jolly bell, you can't help getting up at once, for Big Ben never fails to get you wide awake.

Big Ben is really three good clocks in one, two excellent alarms and a fine time-keeper to keep in any room and tell time all day by.

If you have got to get up bright and early, if you have to get your help in the field on time, ask for Big Ben at your dealer's and try him for a week. You'll never want to be without him afterwards.

Big Ben stands seven inches tall. He is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves.

He rings five minutes steadily or ten intermittently. If he is oiled every other year, there is no telling how long he will last.

He is sold by 6,000 Canadian dealers. His price is \$1.00 anywhere. If you can't find him at your dealer's, a money order mailed to *Watches La Salle, Illinois*, will send him anywhere you say duty charges prepaid.

should be true. Most farmers' daughters do not care to hire out; but in such cases where they do, they usually go to the city where work is pleasanter and remuneration higher. Another reason is that farmers can not afford to pay the wages girls are asking. Indeed, for the same reason, more farmers every year are doing without a hired man. What, with taxes, interest, and ordinary repairs to keep up, the average farmer finds himself hard put to pay his own year's work.

It is in such homes as these that absolute co-operation is needed. Each doing his share diligently, and each perfectly willing to help the other. If it does not make a woman unwomanly to help her husband, why should it make a man unmanly to help his wife?

Do not make too light of housework. I think, perhaps, some of our strongest men might bend beneath its burden.

Not to all of us, of course, is work so heavy given. I am speaking of the many who, lacking in worldly gear, are making up in bodily strength.

I am glad that so many of "The Farmer's Advocate" readers are in such happy circumstances. You do well to rejoice, but, while rejoicing, please don't forget that there are other women for whom the lines have not fallen in such pleasant places. Give them a helping-hand when possible. Tell them how you have made some rough places smooth; not all of us have the ability for those little inventions which help so. Believe me, such help as you may give thus, will be of great value to many a hard-working farmer's wife.

IS MARRIAGE A FAILURE?

I've been reading with much interest the discussions about "Is Marriage a Failure"? "What is Woman's Work on a

Farm," etc., and thought perhaps my own experience might benefit someone. Twenty-one years ago, John and I were married. I was a delicate young city girl, knew nothing of housekeeping, cooking, or any kind of work. I was an Institute graduate, and for five years I had been bookkeeper in a large office in the city. My husband had our home all ready for me, and we went to housekeeping, and such a time as I had! But I was determined to learn, and John thought me the smartest ever, and his kind words of praise helped to spur me on, and in the end I succeeded.

All this happened twenty years ago. We lived in the town and city until eight years ago, when the doctor told me there was no hope for my husband's life unless he was out in the air all the time, and advised farm life. In a month we were out on the farm we are now on. For seven years we fought death back, but a year ago Death conquered, and now I am alone with my two lovely children, a boy sixteen and girl of five.

Before I came to the farm I thought it awful if women had to milk. Since then I've milked as many as ten cows at a time, fed the pigs, watered the cattle, and got the stable ready for his horses. Did I think it slavery? No. I was proud to think that now he was the weak one, I was strong and able to wait on him. Never fear, true love is never afraid of doing too much, or more than its share. I've worked indoors and out, driven a team on the disk harrow, roller and rake, hoed both beans and corn, helped harvest beans,—in fact, everything a man can do, except plow—I never tried that—often working late at night at my housework in order to be able to help outside the next day. He always had the choicest meals that could

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be got, and every care that could be given him. Am I sorry I worked so hard? No, a thousand times, no! Could I but have him again, I would willingly go out on the road, without a dollar, and work for us all. That is love—not what your husband or your wife should do, but what each can do for the other—not "your work and my work," but "our" work. Now, farmers' wives, if your good man is late getting home, feed and water the stock, put in hay for his horses, etc., and see how much he will appreciate your thoughtfulness. Then, some time when you come home late, in a hurry to get supper, you'll find him in the house smiling, the fire on, and the kettle boiling, and maybe (if he is real smart), the table set. Then you will know how he felt when you had his barn chores done. I cannot understand the slavery business. I've tried my hand at almost everything, from training a demon of a Thoroughbred colt to hatching chickens by the hundreds in incubators, but I've never had a man try to wipe his feet on me yet. What I believe in is, try to make your home the sweetest place on earth to your own—yes, and the stranger within your gates, also. I remember of some years ago going on a trip. I was mistaken in the distance. I had carried a heavy baby in my arms for four hours. My baby, myself, and my horse, were indeed weary. It was after the noon hour, and, as the people were strangers, I would not think of asking for my dinner. The farmer came out, helped me out of the buggy, and said, "You look tired and weary. Go right in. My wife will get you a cup of tea, and I'll look after your horse." Do you know, I've received many beautiful presents in my life, but I never felt as grateful for them as I did for that farmer's kindness. I've never since per-

mitted anyone to leave my door without asking them to put in their horse and have their dinner or tea. Husbands, be courteous to your wives. When you come in from the field, tired and hot, and your wife has a fine dinner for you, thank her for it, and let her know you enjoyed it. I get them all their meals as usual, but no one now says, "Marmie, those are dandy biscuits. No one can come up to mother making biscuits!" Or, "Mother, that apple pie tastes like more," or a pat on the arm as he went out to work, "Don't work too hard, mother, there are other days coming." Life is so short at the best. Let us all try to make everyone just as happy as we possibly can, and thus fulfill our Saviour's words, Be ye kind to one another. "DUSKIE."

Duskie, you have sent us the best patch yet received. Very many thanks. You cannot tell how many this little history of your experience may help.

The Ingle Nook.

[Rules for correspondents in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen-name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.]

The High Cost of Living.

If the subjects treated in magazines are any index in regard to what people as a whole are thinking about, it is only necessary to pick up a dozen papers and journals at random to conclude that the question of the present high cost of living is, to-day, one of pressing, even

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worrying, importance. Writer after writer has attempted to probe the "cause," and, no doubt, many of them have touched it, or the combination producing it, closely, yet conditions do not improve; prices remain sky-high, people in poor or even moderate circumstances, find it increasingly difficult to make more than enough to keep body and soul together, while, at the same time, as anyone with eyes in his head must be able to see, the comparative few who have managed to get the ends of wires of one sort or another into their hands go on amassing wealth with an amazing rapidity. There is something queer and crooked about it all somewhere. This earth is productive enough to keep everyone who is willing to work, in comfort, and yet there never was a time when there were more distressingly poor on the one hand, and more luxuriously rich on the other. I suppose it will always be so, so long as there exists an appreciable proportion of people who are gigantically selfish, for, you know, the theory held by Tolstoi and others who have examined deeply into the question is that every dollar spent in useless luxury by a man or woman who refuses to do useful work of any kind—a parasite—means just so much less to someone who needs it for the necessities of life.

I don't suppose that any one who reads this is grindingly poor, yet, under present conditions, there are few who do not feel, more or less, the pinch of high prices. I hear much about them here in the city, from people who, apparently, lack but little, and I know from experience that, during the nine years which I have spent in this place, prices in nearly everything have gone up forty per cent. Salaries, as a rule, have not gone up in proportion, and so it is little wonder that people grumble. They have to keep "respectable" in appearance, yet they do not want to spend all they make for food and clothing. They have other and quite healthy ambitions—the wish to own, eventually, homes of their own, the hope of laying by enough to secure an independent old age.

Well, we can only hope that things will be worked out (and that right speedily) for the good of the greatest number. "Privilege" for the few at the expense of the many should have no place in a civilized land, and perhaps the persistent work of the little knot of good men and true—may their number be increased—who are steadily fighting this evil, may accomplish results sooner than we expect.

In the meantime, with prices as they are, the question is: What can we do with what we have to make a little money stretch over the most ground possible?—and really much may be accomplished along this line by the wise expenditure of thought as well as money.

To deal with the clothing question first: When buying clothes, as many wise women have found out, be very careful in the selection of material. Choose something that will look well, wear well, and that is so quiet in color that you will not tire of it quickly. It usually pays to buy a "good" piece. Cheap material soon looks shabby, and is seldom available for making over, hence, though the good piece may cost more to begin with, it proves to be the most economical in the end.

Next have the material chosen well made, with simple, graceful lines, and a minimum of trimming; it is the "lines," not the trimming, that count in the appearance of any dress or suit. Many of the city women are now making practically all of their own clothes, suits and all, and really, unless enlightened, one would not "know it." Of course, they buy good patterns, and take care to choose those that are simple enough to be easily managed; then they take infinite care in cutting, fitting, basting and pressing. Two women whom I know, who have no one about to help with the fitting, have bought adjustable fitting forms, and find them very satisfactory.

In the matter of hats and gloves, economy may be exercised by choosing those that will "go with" every suit or dress harmoniously, while there is real economy in possessing dainty collars.

Even an old and rather shabby dress may be transformed by a bit of immaculately white neckwear, with cuffs to match, while an old suit may give the effect of a new one if helped out by a dainty malines bow or crocheted jabot, a veil for the hat, good gloves, and well-polished shoes.

Often, too, the old dress, with the addition of a bit of new material, may be turned and made over into one new in line and effect, while old skirts may be metamorphosed into very good underskirts, and all underclothes given a double and treble lease of life by judicious patching. Hats, too, may be made over. Indeed, a milliner said to me once, "Never throw away an old hat until you see if anything can be done with it." Surprising transformations can be wrought by blocking and staining, nowadays, while velvets may be steamed, ribbons cleaned or re-dyed, and flowers touched up with tube paint and turpentine, in short, new trimmings produced from old.

ECONOMY IN COOKERY.

Coming to the table, one must needs pause, realizing the truth of the parody,

"High diddle, diddle,
The cook has a riddle,
With prices as high as the moon;
When her purse keeps small
And hungry folks all
Still eat at night, morning, and noon."

The very worst solution, however, is to cut down the food so much as to eliminate anything that is nourishing. That is no economy at all, for the family must be kept healthy and able for work, and it is better to spend money on food than on doctor-bills.

The problem, then, is to learn how to have the food as nourishing and as appetizing on less money.

Meats afford a ready answer to this question, so far as they go, for the cheapest cuts contain quite as much nutriment as the dearer ones; they only require different cooking to make them as appetizing. Cheap scraps, and all odds and ends of left-overs, for instance, may be put through a meat-chopper (it is a great economy to own a little meat-chopper), and made into croquettes, hash, or meat-pie; other cheap pieces may be transformed, by slow cooking, into appetizing stews; the cheaper roasts may be made delicious by pot-roasting, while round steak may be induced to become just as appetizing as porterhouse by searing it, adding a little water, and cooking slowly and steadily in a covered pan for three hours. Never make soup from a good piece of boiling beef, as the beef will be left tasteless, and comparatively useless as food; use soup-bones for the soup, putting them in the water when it is cold, so that every bit of nutriment may be extracted. Boiling beef should be plunged into boiling water and boiled for about two minutes to harden the outside, so that the juices will be retained, then simmered until done. The water that is left will not be very rich, but may be saved for making soup with the addition of cracked soup-bones.

The housekeeper who wishes to economize in the right way must learn to realize the food-value of well-cooked beans, oatmeal, and corn meal, and will give these a frequent place, cooked in various ways, on the bill of fare. She must learn to use every scrap of left-overs, using old bread for stuffings, puddings, pancakes, and bread-sauce; odds and ends of vegetables, mixed, for salads, or meat-pies; and bits of porridge for muffins or "fried porridge." When eggs are sky-high, she must learn to make cakes and desserts that do not require them, but must supply their place, as important constituents of the daily fare, with something approaching them in nutritive value, though less in cost.

She must also learn to save every scrap of left-over fat for shortening, frying it out and clarifying it, and she must teach the family to be economical in the use of food. Children, for instance, should never be permitted to crumble up food and waste it just for amusement, and they should be taught that when eating bacon and bacon-gravy, or any other rich gravy, butter is not required.

Economize, then, but keep up a well-

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- Medley, Two-Step—The Baboon Baby Dance, Follywag Wiggle.
- Medley, Two-Step—My Sumurun Girl, Way Down on Sunny Tampa Bay.
- Medley, Waltz—A Little Bit of Irish, You May be Irish, Murphy, But I Think That You're in Dutch.
- Medley, Two-Step—Make Me Love You Like I Never Loved Before, I've Got a Ragtime Bee in My Bonnet.
- Medley, Waltz—Come Back, Marguerite, Tell Me Again You Love Me.
- Medley, Two-Step—Big Blonde Baby, Loving Chimes.
- Medley, Waltz—The Garden of Allah, I've Got a Girl From My Home Town.
- Medley, Schottische—Boo-Ti-Toot (On Your Ragtime Flute), The Turkey Clobber's Ball.
- Medley, Waltz—Roll Me Around Like a Hoop, My Dear, Carola.
- Medley, Schottische—How Do you Do, Miss Ragtime, Sally.
- Medley, Barn Dance—Billy's Melody, Dat Lovin' Touch.
- Medley, Waltz—Somehow, Sometime, Somewhere, There a Little Girl That's Lonesome, (In My Old Kentucky Home).
- Medley, Two-Step—I'll Never Have Another Pal Like Mary Mine, Sarah's Hat.
- Medley, Gavotte—(It's Time) Nick! Every Moment You're Lonesome, I'm Lonesome Too.
- Medley, Waltz—If All the Girls in All This World Were Just as Nice as You, Come Love and Play Foot-ball.
- Medley, Waltz—When a Girl Whose Heart is Breaking Leaves a Boy Who Does Not Care, Just For You Sweetheart.
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- Waltzes
Come on Get Busy and Coo Your Heart Hand in Hand, Harbour of Love, The Hour That Gave Me You, If the Cards of Fate Should Change to Thine, Island of Roses and Love, The Little Boy Blue, Month of June is a Song of Love, The Somebody Else Will If You Don't, Under the Love Tree, Wedding Trip, The When the Dew is on the Grass.
- Barn Dance Schottische
By the Light of the Jungle Moon, I Like Your Apron and Your Smiles and Your Little Quaker Corn, Maybe That's Why I'm Lonesome, Moonlight Bay, There's a Ring Around the Moon, Trolley Car Swing, The.
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- Waltz—I Love Love, From "The Red Widow."
- Two-step—Art is Calling Me, (I Want to be Prima Donna), from "The Emancipation."
- Barn Dance—Baby Rose.
- Waltz—Good-bye My Love, Good-bye.
- Two-step—As Long as the Band Will Play.
- Waltz—Wild Rose, From "Sweet Streets."
- Two-step—Keep Away From a Married Man, from "The Quaker Girl."
- Waltz—Dream Love, From "Bossy."
- Barn Dance—For Every Boy Who's Lonesome There's a Girl Who's Lonesome Too, From "Dr. De Luna."
- Two-step—Come Kiss the Bimber, Mary Darling.
- Waltz—If All My Dreams Were Made of Gold, I'd Buy the World for You.
- Two-step—My Toledo Man.
- Waltz—The Girl I'll Call My Sweetheart, Must Look Like You, From Chauncy Otis's "Macintosh."
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Your Remedy is a Wonder

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Dear Sir:—I wish to advise that I have entirely cured the Curb on my driver in less than three weeks with your Mack's Thousand Dollar Spavin Remedy. It is all you claim it to be, and is the best remedy I have ever used.
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balanced ration. Remember that the body grows weak and susceptible to disease if it is starved for want of proper food constituents. It needs protein and carbohydrates, and fat — don't be afraid of these words—for muscle and heat and energy, and these constituents are found in meat, eggs, beans, cheese, milk, nuts, oatmeal, wheat, molasses, starchy vegetables, butter, cream, macaroni, sugar, and corn, and wheat meals. It needs also foods for bulk, to carry the waste material through the body, and foods that supply various mineral salts, etc. Such are whole wheat, prunes, celery, cabbage, parsnips, turnips, carrots, beets, onions and all kinds of green vegetables and fruits.

As you will readily conclude, then, from the last statement, one great item in economizing is to have a garden for vegetables and fruit. Every farmer can have one. It only requires a little time, and a little enjoyable labor at which the children can help.

Just one word more: it pays to buy groceries, etc., in large quantities. Buying in little dribs always means paying out at a much higher rate.

So much for this time.

JUNIA.

Valentine Party Suggestions.

(For "Ted" and "Blue-Eyes.")

Here is a description of a delightful Valentine Party, which may be of use to you: The invitations were written on pink water-color paper, decorated with red hearts, and stated that each guest must come in costume, and masked. Among the "characters" that appeared, in compliance with this request, were Little Red Riding-hood; Little School Girl; Queen Elizabeth; Juliet; Aunt Samantha; Miss Hibernia; Mary Queen of Scots; Pocahontas; Madame Butterfly; Daisy; Romeo; Sir Walter Raleigh; Chi-

ose Madonna; Little Boy Blue; Wizard; Turk; Hiawatha.

On the arrival of the guests, the young men were handed heart-shaped pieces of paper and pencils, and required to write proposals in rhyme. In the meantime the girls were each supplied with a small handful of beans. When the proposals were written (most of them were very ridiculous), they were collected and read aloud, the girls bidding on each, in turn, as far as their beans would allow.

The crowd then mingled together, each trying to identify the characters represented by others, and a heart-shaped box of bonbons was given as a prize to the one who succeeded in guessing the greatest number of characters. Name and name of character had to be written.

No one unmasked until supper-time. I forgot to mention, by the way, that all of the masks were made of black velvet, with holes for the eyes. No ridiculous and vulgar false faces appeared.

The supper tables were, of course, decorated with pink flowers and candles with pink shades, and the cloth was sprinkled with tiny red-paper hearts, which may be bought for such purposes, these hearts afterwards being pasted by the girls on their faces "patch-wise," and on their dresses. At each place was a pink place-card, and a Valentine, which was read aloud by the recipient before the supper started. There were also menu cards upon which appeared such items as "Love Bouillon" (a milk soup tinted pink with beet-juice); "Heart-bred" (sandwiches); "Sweethearts" (heart-shaped cakes of "Scotch bread"); "Cupid's Darts" (bonbons), etc. The pink (love's color) idea was also carried out in pink ice cream, and cake with pink icing.

After supper some songs were sung, and the party was closed with "For Auld Lang Syne."

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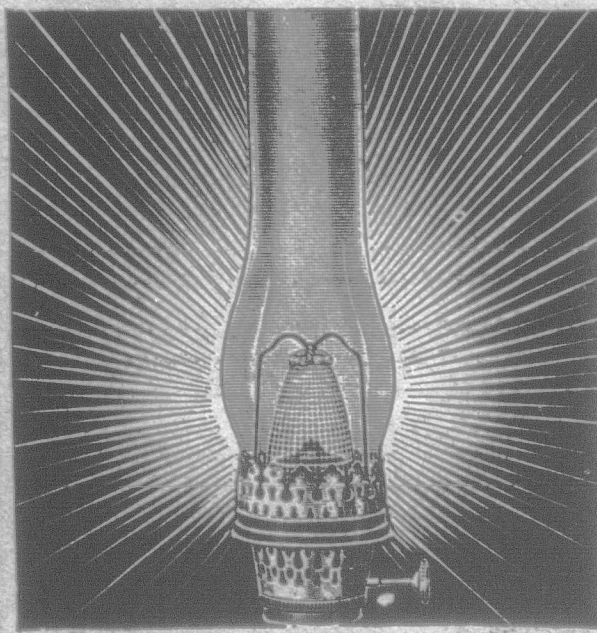
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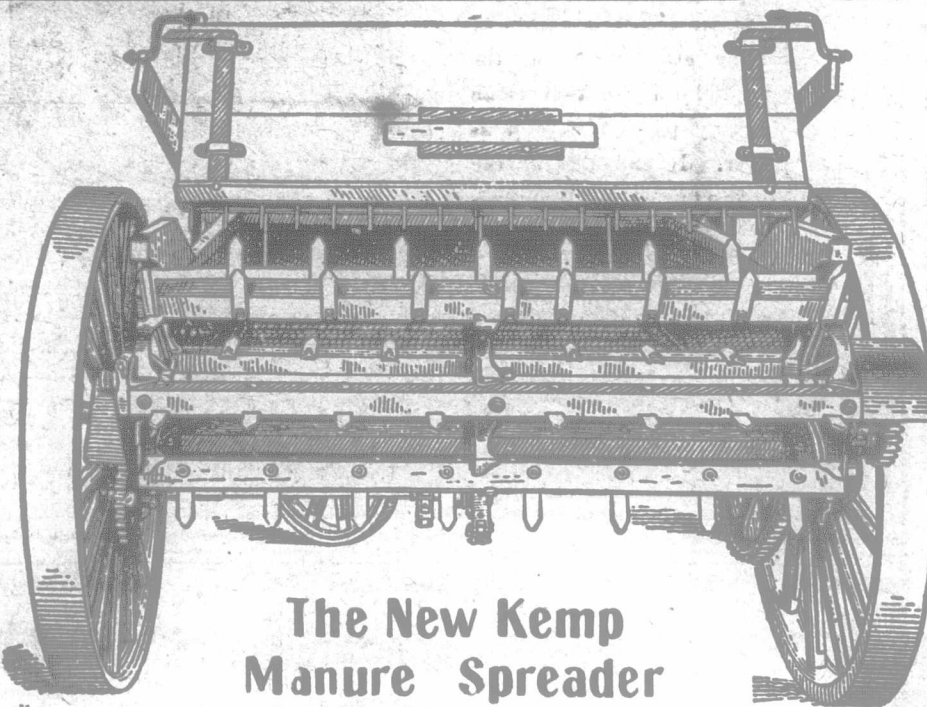
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100 acres of good clay loam soil, rolling. Just outside Village of Princeton, Oxford County. 7 acres of fall wheat, 30 acres fall ploughed, 1 1/2 acres bush, balance seeded. A splendid orchard nearly all winter fruit. Good bank barn, silo, hog-pen and driving barn, all nearly new. A good two-storey, red brick house with telephone connections, with 1,200 phones free at \$12.00 per annum. Price \$6,900. Easy terms. Box 18, Princeton, Ont.

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Aluminum Ear Markers
are the best. Being made of aluminum they are brighter, lighter, stronger and more durable than any other. Fit any part of the ear. Nothing to catch on feed trough or other obstacle. Your name, address and any series of numbers on each tag. Sample tags, catalogue and prices mailed free. Ask for them. Address
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The New Kemp Manure Spreader

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Write to-day for catalogue and J. S. Kemp's article on Saving and Application of Manure.

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For Sale—Angus Cattle. Some nice yearling bulls and good females, all ages. Use an Angus bull to cross and get the kind the butcher likes. J. W. BURT & SONS, Hillburg P.O., R.R. No. 1, Ont.

Clydesdale Stallion For Sale, rising 3 years bay—Draffan's Fame (12262). Has been Government inspected. See Scotland's Fame (Imp.); dam Draffan Belle (Imp.). Terms to suit purchaser. Apply Morley Adams, Brantford, Ont., Box 65.

Rebecca of Sunnybrook Farm.

By Kate Douglas Wiggin.

Serial rights secured from Houghton Mifflin Publishing Company, New York.

XV.

The Banquet Lamp

There had been company at the brick house to the bountiful Thanksgiving dinner which had been provided at one o'clock,—the Burnham sisters, who lived between North Riverboro and Shaker Village, and who for more than a quarter of a century had come to pass the holiday with the Sawyers every year. Rebecca sat silent with a book after the dinner dishes were washed, and when it was nearly five asked if she might go to the Simpsons'.

"What do you want to run after those Simpson children for on a Thanksgiving Day?" queried Miss Miranda. "Can't you set still for once and listen to the improving conversation of your elders? You never can let well enough alone, but want to be forever on the move."

"The Simpsons have a new lamp, and Emma Jane and I promised to go up and see it lighted, and make it a kind of a party."

"What under the canopy did they want of a lamp, and where did they get the money to pay for it? If Abner was at home, I should think he'd been swappin' again," said Miss Miranda.

"The children got it as a prize for selling soap," replied Rebecca; "they've been working for a year, and you know I told you that Emma Jane and I helped them the Saturday afternoon you were in Portland."

"I didn't take notice, I s'pose, for it's the first time I ever heard the lamp mentioned. Well, you can go for an hour, and no more. Remember it's as dark at six as it is at midnight. Would you like to take along some Baldwin apples? What have you got in the pocket of that new dress that makes it sag down so?"

"It's my nuts-and raisins from dinner," replied Rebecca, who never succeeded in keeping the most innocent action a secret from her aunt Miranda; "they're just what you gave me on my plate."

"Why didn't you eat them?" "Because I'd had enough dinner, and I thought if I saved these, it would make the Simpson's party better," stammered Rebecca, who hated to be scolded and examined before company.

"They were your own, Rebecca," interposed aunt Jane, "and if you chose to save them to give away, it is alright. We ought never to let this day pass without giving our neighbors something to be thankful for, instead of taking all the time to think of our own mercies."

The Burnham sisters nodded approvingly as Rebecca went out, and remarked that they had never seen a child grown and improve so fast in so short a time.

"There's plenty of room left for more improvement, as you'd know if she lived in the same house with you," answered Miranda. "She's into every namable thing in the neighborhood, an' not only into it, but generally at the head an' front of it, especially when it's mischief. Of all the foolishness I ever heard of, that lamp beats everything; it's just like those Simpsons, but I didn't suppose the children had brains enough to sell anything."

"One of them must have," said Miss Ellen Burnham, "for the girl that was selling soap at the Ladds' in North Riverboro was described by Adam Ladd as the most remarkable and winning child he ever saw."

"It must have been Clara Belle, and I should never call her remarkable," answered Miss Miranda. "Has Adam been home again?"

"Yes, he's been staying a few days with his aunt. There's no limit to the money he's making, they say; and he always brings presents for all the neighbors. This time it was a full set of furs for Mrs. Ladd; and to think we can remember the time he was a barefoot boy without two shirts to his back! It is strange he hasn't married, with all his money, and him so fond of children that he always has a pack of them at his heels."

"There's hope for him still, though," said Miss Jane smilingly; "for I don't s'pose he's more than thirty."

"He could get a wife in Riverboro if he was a hundred and thirty," remarked Miss Miranda.

"Adam's aunt says he was so taken

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TRADE TOPICS.

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with the little girl that sold the soap (Clara Belle, did you say her name was?), that he declared he was going to bring her a Christmas present," continued Miss Ellen.

"Well, there's no accountin' for tastes," exclaimed Miss Miranda. "Clara Belle's got cross-eyes and red hair, but I'd be the last one to grudge her a Christmas present; the more Adam Ladd gives to her the less the town'll have to."

"Isn't there another Simpson girl?" asked Miss Lydia Burnham; "for this one couldn't have been cross-eyed; I remember Mrs. Ladd saying Adam remarked about this child's handsome eyes. He said it was her eyes that made him buy the three hundred cakes. Mrs. Ladd has it stacked up in the shed chamber."

"Three hundred cakes!" ejaculated Miranda. "Well, there's one crop that never fails in Riverboro!"

"What's that?" asked Miss Lydia politely.

"The fool crop," responded Miranda tersely, and changed the subject, much to Jane's gratitude, for she had been nervous and ill at ease for the last fifteen minutes. What child in Riverboro could be described as remarkable and winning, save Rebecca? What child had wonderful eyes, except the same Rebecca? and finally, was there ever a child in the world who could make a man buy soap by the hundred cakes, save Rebecca?

Meantime the "remarkable" child had flown up the road in the deepening dusk, but she had not gone far before she heard the sound of hurrying footsteps, and saw a well-known figure coming in her direction. In a moment she and Emma Jane met and exchanged a breathless embrace.

"Something awful has happened," panted Emma Jane.

"Don't tell me it's broken," exclaimed Rebecca.

"No! oh, no! not that! It was packed in straw, and every piece came out all right; and I was there, and I never said a single thing about your selling the three hundred cakes that got the lamp, so that we could be together when you told."

"Our selling the three hundred cakes," corrected Rebecca; "you did as much as I."

"No, I didn't, Rebecca Randall. I just sat at the gate and held the horse."

"Yes, but whose horse was it that took us to North Riverboro? And besides, it just happened to be my turn. If you had gone in and found Mr. Aladdin you would have had the wonderful lamp given to you; but what's the trouble?"

"The Simpsons have no kerosene and no wicks. I guess they thought a banquet lamp was something that lighted itself, and burned without any help. Seesaw has gone to the doctor's to try if he can borrow a wick, and mother let me have a pint of oil, but she says she won't give me any more. We never thought of the expense of keeping up the lamp, Rebecca."

"No, we didn't, but let's not worry about that till after the party. I have a handful of nuts and raisins and some apples."

"I have peppermints and maple sugar," said Emma Jane. "They had a real Thanksgiving dinner; the doctor gave them sweet potatoes and cranberries and turnips; father sent a spare-rib, and Mrs. Cobb a chicken and a jar of mince-meat."

At half past five one might have looked in at the Simpsons' windows, and seen the party at its height. Mrs. Simpson had let the kitchen fire die out, and had brought the baby to grace the festive scene. The lamp seemed to be having the party, and receiving the guests. The children had taken the one small table in the house, and it was placed in the far corner of the room to serve as a pedestal. On it stood the sacred, the adored, the long-desired object; almost as beautiful and nearly half as large as the advertisement. The brass glistened like gold, and the crimson paper shade glowed like a giant ruby. In the wide splash of light that it flung upon the floor sat the Simpsons, in reverent and solemn silence, Emma Jane standing behind them, hand in hand with Rebecca. There seemed to be no desire for conversation; the occasion was too thrilling and serious for that. The lamp, it was tacitly felt by everybody was dignifying the party, and providing sufficient entertainment simply by its presence; being fully as satisfactory in its way as a pianola or a string band.

"I wish father could see it," said Clara Belle loyally.

"If he onth thaw it he'd want to thwap it," murmured Susan sagaciously.

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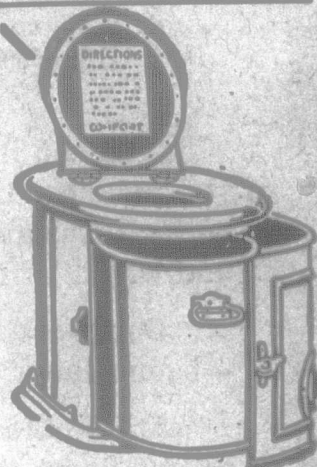
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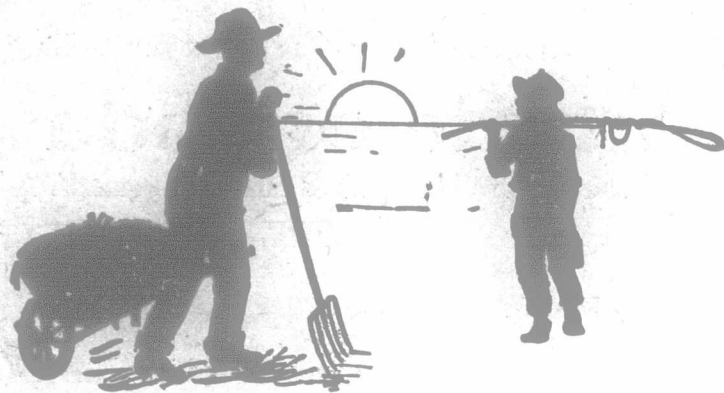
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"Hello, Tommy! Chores done already?"
"Yep! Aint you seen our new Litter Carrier?
It's a cinch—You should write to
Dillon's for their book—same as Dad did."

You can if you work hard enough, and if you have the time and patience, keep stables perfectly clean with the help of fork, broom and wheel barrow.

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Your man's time is valuable—then cut down the time he spends cleaning the stables.

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At the appointed hour Rebecca dragged herself reluctantly away from the enchanting scene.

"I'll turn the lamp out the minute I think you and Emma Jane are home," said Clara Belle. "And, oh! I'm so glad you both live where you can see it shine from our windows. I wonder how long it will burn without bein' filled if I only keep it lit one hour every night?"

"You needn't put it out for want o' kerosene," said Seesaw, coming in from the shed, "for there's a great kag of it settin' out there. Mr. Tubbs brought it over from North Riverboro and said somebody sent an order by mail for it."

Rebecca squeezed Emma Jane's arm, and Emma Jane gave a rapturous return squeeze. "It was Mr. Aladdin," whispered Rebecca, as they ran down the path to the gate. Seesaw followed them and handsomely offered to see them "a piece" down the road, but Rebecca declined his escort with such decision that he did not press the matter, but went to bed to dream of her instead. In his dreams flashes of lightning proceeded from both her eyes, and she held a flaming sword in either hand.

Rebecca entered the home dining-room joyously. The Burnham sisters had gone and the two aunts were knitting.

"It was a heavenly party," she cried, taking off her hat and cape.

"Go back and see if you have shut the door tight, and then lock it," said Miss Miranda, in her usual austere manner.

"It was a heavenly party," reiterated Rebecca, coming in again, much too excited to be easily crushed, "and oh! aunt Jane, aunt Miranda, if you'll only come into the kitchen and look out of the sink window, you can see the banquet lamp shining all red, just as if the Simpsons' house was on fire."

"And probably it will be before long," observed Miranda. "I've got no patience with such foolish goin's-on."

Jane accompanied Rebecca into the kitchen. Although the feeble glimmer which she was able to see from that distance did not seem to her a dazzling exhibition, she tried to be as enthusiastic as possible.

"Rebecca, who was it that sold the three hundred cakes of soap to Mr. Ladd in North Riverboro?"

"Mr. Who?" exclaimed Rebecca.

"Mr. Ladd, in North Riverboro."

"Is that his real name?" queried Rebecca in astonishment. "I didn't make a bad guess," and she laughed softly to herself.

"I asked you who sold the soap to Adam Ladd?" resumed Miss Jane.

"Adam Ladd! then he's A. Ladd, too; what fun!"

"Answer me, Rebecca."

"Oh! excuse me, aunt Jane, I was so busy thinking. Emma Jane and I sold the soap to Mr. Ladd."

"Did you tease him, or make him buy it?"

"Now, aunt Jane, how could I make a big grown-up man buy anything if he didn't want to? He needed the soap dreadfully as a present for his aunt."

Miss Jane still looked a little unconvinced, though she only said, "I hope your aunt Miranda won't mind, but you know how particular she is, Rebecca, and I really wish you wouldn't do anything out of the ordinary without asking her first, for your actions are very queer."

"There can't be anything wrong this time," Rebecca answered confidently.

"Emma Jane sold her cakes to her own relations and to uncle Jerry Cobb, and I went first to those new tenements near the lumber mill, and then to the Ladds'. Mr. Ladd bought all we had and made us promise to keep the secret until the premium came, and I've been going about ever since as if the banquet lamp was inside of me all lighted up and burning, for everybody to see."

Rebecca's hair was loosened and falling over her forehead in ruffled waves; her eyes were brilliant, her cheeks crimson; there was a hint of everything in the girl's face,—of sensitiveness and delicacy as well as of ardor; there was the sweetness of the mayflower and the strength of the young oak, but one could easily divine that she was one of

"The souls of nature pitched too high. By suffering plunged too low."

"That's just the way you look, for all the world as if you did have a lamp burning inside of you," sighed aunt Jane. "Rebecca! Rebecca! I wish you could take things easier, child; I am fearful for you sometimes."

(To be continued).

THIS WASHER MUST PAY FOR ITSELF.

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right," but pay me first, and I'll give you back your money if the horse isn't all right."

Well, I didn't like that. I was afraid the horse wasn't "all right" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now, this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

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

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

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

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

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

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

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

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that in washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 60 cents a week 'till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer, that washes clothes in six minutes.

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GOSSIP.

Bow Park Farm, Brantford, Ont., in an advertisement in this issue, states that the manager is prepared to purchase a small herd of Holstein cattle, or ten registered heifers.

The Caledonia Milling Co., Caledonia, Ont., in their new advertisement in this issue, call attention to their guaranteed Government Standard Seeds, including alfalfa, alsike, barley, and oats, of leading varieties, with prices.

COMING EVENTS.

- Ontario Corn-growers' Convention and Exhibition, Windsor, Ont., Feb. 11-14.
- Ontario Fairs and Exhibitions Convention, Forrester's Hall, 22 College street, Toronto, Feb. 5-6.
- Manitoba Winter Fair, Brandon, March 3-7.
- Saskatchewan Provincial Winter Fair, Regina, March 11-14.

Martin McDowell, Oxford Center, Ont., Eastwood Station, G. T. R., breeder of Holstein cattle, in his new advertisement, offers for sale young bulls bred from prizewinning and deep-milking strains, one from the first-prize aged cow in the milking test at the Winter Fair, Guelph, 1912, also a half-brother to the sweepstakes heifer under three years old. A few females are also for sale.

A. W. Smith, Maple Lodge, Ont., ordering a change in his advertisement, writes: The young Shorthorn bulls offered are a very nice lot, good lines, heads and horns, nice color, well-covered backs, and, like their sire, are thick and full around the crops and heart, and all have a splend'd coat of thick, soft hair. The dams of most of them are excellent milkers, and thick, well-fleshed cows, the kind that is looked for amongst Short-horns just now.

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February 5th is the date fixed for the auction sale, at Maher's Horse Exchange, Toronto, of thirty imported Clydesdale and Percheron fillies, and six imported Clydesdale and Percheron stallions of fine breeding and quality, being sired by several of the most popular sires in the countries from which they have come, and were prominent prize-winners both in the old countries and in Canada. The Clydesdales are by such noted horses as the champion, Baron of Buchlyvie, Baron Beaulieu, Baron Gibson, Baron Albion, Baron Nelson, The Bruce, Montrave Ronald, Moncrieffe Marquis, etc. Some of the Percheron mares were high-class prizewinners at the Canadian National last year. One was champion at London, and a three-year-old won the open mare class at Guelph Winter Fair. See the advertisement, note the date and place, 16-28 Hayden street, Toronto.

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- 2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.
- 3rd.—In Veterinary questions the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
- 4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

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Lambton Co., Ont.
 Ans.—Post-office Inspector, London, Ont.



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Gentlemen: I enclose \$..... for which send me one box of Holeproof Hose for..... (state whether for men, women or children). Size..... Color..... Weight.....

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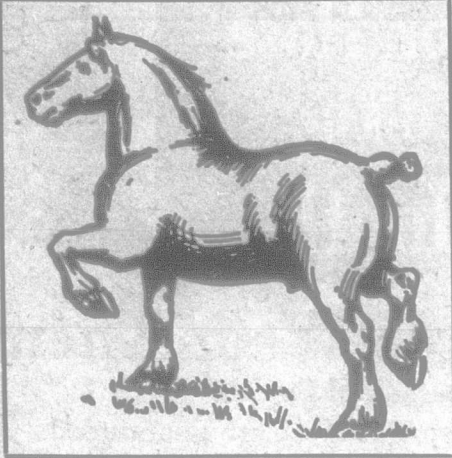
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125-Egg Incubator and Brooder for \$13.75

If ordered together we send both machines for only \$13.75 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Five year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$13.75 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time. Write us today. Don't delay.

WISCONSIN INCUBATOR CO., Box 212, Racine, Wis., U. S. A.



Annual Combination Auction Sale

Clydesdales AND Percherons

Will be held at
UNION STOCK YARDS, TORONTO

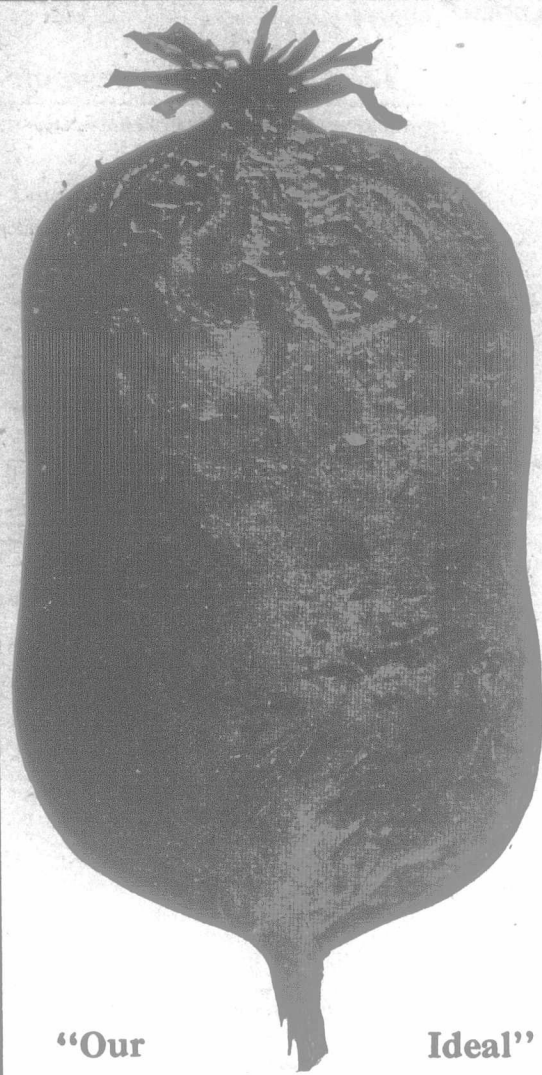
Tuesday and Wednesday, Feb. 25 and 26, 1913

Tuesday, February 25th, at 11 a.m.—75 Clydesdales.

Wednesday, February 26th, at 11 a.m.—50 Percherons.

These horses will be the best of Canadian-bred and imported stock of these popular breeds. Stallions, mares, mares in foal and fillies. If you have any pedigreed stock to sell, write for terms.

Union Stock Yards of Toronto, Limited
HORSE DEPARTMENT, TORONTO



"Our

Ideal"

FARMERS!

Buy always the Best

Buy our famous, superior home-grown and imported seeds. Ask for catalogue.
Order our famous Special Collections.

Farm garden collection, 26 selected varieties, \$1 postpaid.

Trial collection, 18 selected varieties, 50c. postpaid.

Children's collection, 15 selected varieties, 25c. postpaid.

OUR HOME-GROWN

Yellow Mangel "Our Ideal"

leads them all. It is the new mangel with the greatest future. An easy harvester and a keeper of highest feeding value. The 1912 report of the Ontario Agricultural & Experimental Union in the competing co-operative experiments, shows the "Ideal" as the leading variety, with 100 value and 32.40 tons per acre.

50 cents per pound.

Give them a trial.

Ontario Seed Co., Successors
WATERLOO, ONTARIO

Our Hurst Sprayers are the best.

Ask for Catalogue

Hawthorne Glen Holstein Herd

Offers young bulls ready for service, one from Calamity Howtje, winner of 1st prize in cow class at Guelph, 1912; also a half-brother to Pontiac Jessie, sweepstakes heifer under 36 months; also a few females. Prices reasonable.
Write for particulars, or come and make your choice.

MARTIN McDOWELL

Eastwood Sta. G. T. R. Oxford Centre, Ont

FOR SALE REGISTERED BULL CALVES

From one to four months old.

Price from \$25.00 to \$50.00.

These calves are equal to any \$100 stock. Apply

MOUNT DAIRY, MILTON, ONT.

Important NOTICE TO FARMERS.—A post card mailed to us will afford you valuable information as to what to do in the event of FIRE. Our information will protect you from heavy losses. Dominion Chemical Bureau, Birk's Bldg., Montreal, Canada.

A Small Herd of Pedigree Holstein Cattle or 10 Registered Holstein Heifers Wanted!

BOW PARK FARM, BRANTFORD, ONTARIO



IMP. CLYDESDALE STALLIONS AND FILLIES

just landed. Size and quality and breeding unsurpassed. Come and see them. Prices away down. Terms to suit buyer. W. B. ANNETT, ALVINSTON, ONT. Farm situated five miles from Watford, Ont., G. T. R. station, and four miles from Alvinston, G. T. R. and M. C. R.

Columbia Double Disc Records

DOUBLE VALUE FOR YOUR MONEY



DUNHAMS' PERCHERONS

are today as for the past forty-seven years the

-B-E-S-T-

Fresh importation. Catalogue FREE.

DUNHAMS, Wayne, Du Page County, Ill.

GOSSIP.

GRAHAM-RENFREW CLEARING SALE.

The dispersion sale in Toronto, on Friday, February 7th, of the entire stud of Clydesdales, Hackneys, and Welsh ponies, belonging to the noted firm of importers, Graham-Renfrew Co., will afford a rare opportunity to secure first-class imported and Canadian-bred animals of up-to-date character and breeding, at the buyer's own prices. The splendid record this firm has made in prizewinning at leading shows in Canada and the United States, is a guarantee that the stock they are selling will be of the best. Having sold their farm at Bedford Park, north of Toronto, now annexed to the city, the sale will be without reserve. See the advertisement, note the date and place, and if interested apply for catalogue.

The year of 1912 was, so far as the Clydesdale breed is concerned, one of progress on every hand. The value of the type has been enhanced considerably, the export trade with Canada, the United States, and other countries, has kept well up, and breeders are paying more attention than ever to the proper registration of their stock in the Studbook. So says a writer in the London Live-Stock Journal Almanac for 1913. Breeders, however, are not in every case in agreement as to what constitutes an ideal Clydesdale, but the majority appear to favor a horse which, given plenty of bone without grossness, and with comparative freedom of action, is fitted to do a heavy day's lorry work and keep fit. The "tall" horse with fine bones finds favor with a few, but the number who place their faith in this type is becoming gradually less. It is recognized that those who want a horse for heavy work are not likely to purchase one of the latter kind, whilst there are plenty of the former to be had, and in the end it is the price that rules the type, and of course the price will only be given for the sort that has been proved to be suitable for the work required.

Robt. McEwen, of Alloway Lodge Stock Farm, Byron, Ont., in changing his advertisement, reports the following sales of Southdowns in 1912: To T. A. Cox, Brantford, a home-bred stock ram; W. W. Down, Brighton, three shearing ewes, in lamb; F. W. Harding, Waukesha, Wis., the stock ram, Babraham Hector, sire of most of my winning lambs in 1911 and 1912; C. R. Doty, Charleston, Ill., a fitted show flock of seven head; Cooper & Nephews, Sugar Grove, Ill., a fitted two-shear ewe; A. M. Casey, of Caseyland Seed and Stock Farm, a fitted shearing ram and ewe, and a fitted ewe lamb and ram lamb; Sir William Van Horne, Montreal, ten breeding ewes and a two-shear stock ram; J. R. Dennis, Charlottetown, P. E. I., purchased eight young ewes, and the first-prize shearing ram at London last fall; T. A. Cox bought the first-prize ewe lamb at Guelph, in December, while the Ohio University at Columbus, got four wether lambs, including the first-prize pen at the same show, and W. H. Miner, Chazy, N. Y., for Hearst's Delight Farm, two winning ewe lambs and two ram lambs, which were first and second at London last fall. Among those getting ram lambs to use as flock-headers, were Fred Dell, Niagara Falls South; F. W. Miller, Bridgeburg; E. C. Bennett, Thornbury; Hampton Bros., Living Springs; A. R. McNiven, Ingersoll; O. W. Nuttal, South Lake, and I. B. A. Lucas, Bongards Corners. There were also some shearing rams purchased by the Dominion Sheep-breeders' Association for their sales. I am pleased to say that in almost every case, writes Mr. McEwen, the men who received this stock wrote they were well pleased, and promised their trade for another year. This means that as I am breeding for quality and not quantity, it will be necessary for intending purchasers to order early to secure what they want, as last year the demand exceeded the supply, and an even better trade is looked for this season. I thank you for the assistance "The Farmer's Advocate" has been to me in making last year my most successful one, and wish you every success for 1913.

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Greatness Thrust Upon Him.

There is an old adage somewhere that says, "some (men) have greatness thrust upon them." The story that I am, to tell is one of a man who became great in the agricultural world without knowing it.

In detail, this is what happened: Henry Salmon, who lives at Raymond, Alberta, and farms a small piece of ground just outside the town, bought some Red Fife wheat for seed, in 1908. He sowed it that year, and next year used the resultant product for all his wheat ground. The land had not been summer-fallowed or tilled in any special way, and the seed was put in broadcast. Two horses and a hand-plow did all that was done in the way of preparation. After seeding, it was levelled with a plank. Enough for the seeding.

"Providence must have meant that seed to win a world prize," said Henry Salmon to the writer, "I never tried for it."

What Henry Salmon did was to show a bushel of the wheat at a seed fair in his home town the fall after it was sown in 1909. But it didn't get a prize. "Too dirty," the judge said. Well, it was dirty. Henry Salmon knew it was dirty, but it was only a Raymond Fair, and he didn't care.

The judge knew, however, that Henry Salmon had good wheat, and after judging was completed he offered the grower a dollar bill for his wheat. Henry took it, of course. The wheat wasn't worth it, he thought, and he would not turn down a good offer like that. So the bushel was taken to Lethbridge.

In the fall, 1909, there was held at Omaha, Neb., a Corn Exhibition. Competition was open to the world, and Canada was in it. The city of Lethbridge had an exhibit preparing for the Exposition, and Henry Salmon's bushel of Red Fife wheat was put in it. More than that, it was thought to be so good that it was entered in the competition open to the world. It had to be entered in the grower's name, and Henry Salmon was the grower. So the bushel of Red Fife wheat was entered at Omaha in Henry Salmon's name.

Now, Henry Salmon is not well known in Lethbridge; at least he was not at that time, and the fact that the bushel of wheat was good, did not necessarily mean that those who knew it must associate with it the name of the grower. Anyway, it captured the prize offered for the best wheat in the world, and then the promoters of the Lethbridge exhibit began to look around for the grower. There was some gold for him, and to it they had no right. So they asked where Henry Salmon was. Nobody knew. The judge who bought the wheat was away from the city, and no trace of the owner of the precious bushel of Red Fife could be found.

The newspapers took the matter up. They advertised, but still nothing could be heard of Henry Salmon. At last, one day a neighbor talking with Mr. Salmon asked him if he ever sent any wheat to Omaha. Mr. Salmon answered that he had not, but that he had sold what he showed at the seed fair at Raymond to a man in Lethbridge. It was finally worked out that this prizewinning wheat was one and the same bushel as that grown by the Raymondite.

So the wheat came back from Omaha; the same wheat, and yet not the same, for now it had attached to it the gold seal of that National Exposition, and this was at once turned over to its rightful owner, for he had indeed, though not knowing it, grown the best bushel of wheat in the world.

Henry Salmon showed the medal to the writer at the time of this interview. Those who were fortunate enough to visit the Dry-farming Congress at Lethbridge last fall may have seen this medal on this man marching before a brass band, and hailed by the citizens of his home town as one of the men that made possible the holding of such gatherings.

Henry Salmon himself, while justly proud of his medal, admits that any one under similar circumstances might have had the gold.—W. McD. Tait.

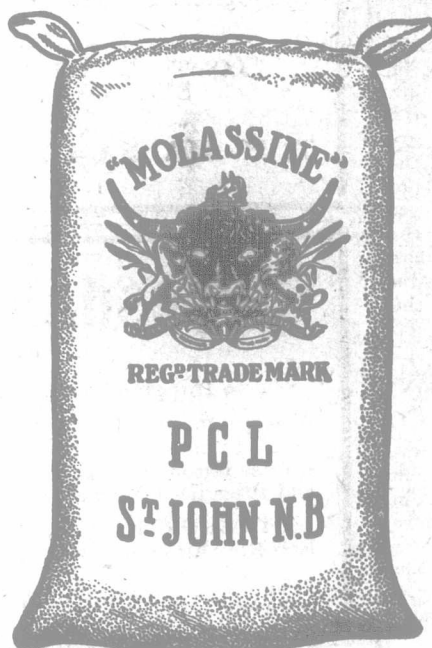
MOLASSINE MEAL

Made in England

is made in England and is recognized by the leading veterinary surgeons in Great Britain—used in all mounted departments of the British Army—large Cartage Companies—Omnibus Companies—and all owners of horses having heavy work to do or for show or breeding purposes. It is



A Splendid Economical Feed for Horses, Cattle, Sheep and Pigs



"MOLASSINE MEAL" is not only a good food itself but enables the animal fed on it to obtain the full nourishment from all other food. When MOLASSINE MEAL is fed regularly three times a day, you have no waste fodder of any kind. It costs you less for feed and the animals obtain more nourishment.

Get some from your dealer to-day. If he has not got it, write and let us know at once.

There are dozens of molasses preparations on the market but only one MOLASSINE MEAL

The Molassine Co., Ltd. London, England

Distributors for Canada
L. C. Prime Co., Ltd., St. John, N.B.
402 Board of Trade Bldg., Montreal
Pacific Building, Toronto

Write to the Department of Inland Revenue, Ottawa, for their Bulletin No. 241, on Registered Stock Foods, and see the Government analysis of MOLASSINE MEAL. It is better than its guarantee and away ahead of any other molasses food.

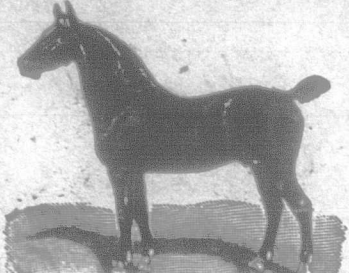
COLUMBUS CLYDESDALES AT HOME
To our past customers and intending purchasers, we wish to say that we can show you something really worth while in Canadian-bred and imported Clydesdale stallions and mares. Our aim is to please you.
SMITH & RICHARDSON, Columbus, Ontario
*Phone connections. Stations: Oshawa G.T.R. and C.N.R. Brooklin G.T.R., Myrtle C.P.R.

They Cost Less
"Clay" Gates
STRONGEST and best farm gate made. 30,000 sold in 1912. Can't sag, bend or break. Can be raised as shown. Good for Winter and Summer. Send for illustrated price list.
The CANADIAN GATE CO. Ltd.
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Veterinary Drugs Pharmacy
Any kind of **VETERINARY DRUGS**
If you need any, write at once, when we will quote very low and reasonable prices.
Consultation by letter **FREE** of charge, with our **diplomed veterinary doctor.** For any diseases, write and consult him now.
NATIONAL STOCK FOOD COMPANY
Ottawa, Ontario.
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. DR. BELL, V.S., Kingston, Ont.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.
A Safe, Speedy and Positive Cure for
 Cuts, Sprains, Swoony, Capped Hock, Strained Tendons, Founder, Wind Falls, and all lameness from Spavin, Blisters and other bony tumors, Greasy skin diseases or parasites, Thrush, Diphtheria. Removes all Swabs from Hooves or Galls.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc. it is invaluable.
 Every bottle of Caustic Balsam 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, testimonials, etc. Address: The Lawrence-Williams Co., Toronto, Ont.

SAVE-THE-HORSE

Trade Mark Registered.



THE LAME HORSE is never cured whose owner reads and doubts, — **BUT FAILS TO ACT** — Here is a case in point. — And what happened to this Subscriber is taking place with thousands.

Letter No. 1. Orleans, Vermont, April 26th, 1912. Troy Chemical Co., Binghamton, N. Y. — Your adv. has given me courage to try again. I have a valuable yearling two years ago he went lame. I tried every remedy and Doctors have blistered three times for spavin and twice hip. The symptoms are — etc., etc. I determined to see what you think. **HALE MASON.**

Letter No. 2. Orleans, Vt., May 2nd, 1912. — I received your letter and book yesterday and believe you are right about its being a horse spavin. I was so encouraged I drove eight miles and bought a bottle of Fred D. Pierce, druggist at Barton, and will closely follow your special instructions. Thanking you for your quick reply to my first letter, I remain, **HALE MASON.**

Letter No. 3. Orleans, Vt., Oct. 2, 1912. — Perhaps you expected to hear from me before, but I have been waiting to see if any trouble would return after stopping the treatment. I am pleased to say the horse is well. I cannot thank you enough for your interest and the advice you gave. If I had known about it two years ago it would have saved me a lot of money. Yours respectfully, **HALE MASON.**

Save-The-Horse has stood alone and unique among veterinary remedies for over seventeen years.

Every bottle of Save-the-Horse is sold with an iron-clad contract that has \$50,000 paid-up capital back of it, guaranteeing to permanently cure or refund the money no matter whether it is Bone or Bog Spavin, Tendon Disease or Fallow — or any other case of lameness or bleedings may be.

But write, describing your case, and we will send our **BOOK** — sample contract, letters from breeders and business men, the work done on every kind of case, and advice — all free to horse owners and managers.


Write! **AND STOP THE LOSS.**

TROY CHEMICAL CO.

148 Van Horn St., Toronto, Ont. and Binghamton, N. Y.

Druggists everywhere sell Save-the-Horse with CONTRACT or sent by us Express Prepaid.

You Can't Cut Out A BOG SPAVIN, PUFF OR THOROUGHPIN, but



ABSORBINE

will clean them off permanently, and you work the horse same time. Does not blister or remove the hair. \$2.00 per bottle, delivered. Book 4 free.

ABSORBINE J.L. Liniment for manking, reduces Varicose Veins, Ruptured Muscles or Ligaments, Enlarged Glands, Gout, Wens, Cysts. Alleviates pain quickly. Price \$1.00 and \$2.00 a bottle at druggists or delivered. Will tell you more if you write. Manufactured only by **W. F. YOUNG, P.D.F., 87, Mans Eids., Montreal, Can.**

Messrs. Hickman & Scruby

Court Lodge, Egerton, Kent, Eng.

Exporters of Pedigree Live Stock of All Descriptions. Draft Horses a Specialty.

Draft horses are high, and feed is low; imported horses bought well are easily the best value for money that can be bought in horse flesh. Write us for full particulars. We can give highest references, many being to entire strangers who have dealt with us by correspondence only.

Shires and Shorthorns

In Shire stallions and fillies, from the best studs in England, we are offering some rare animals at rare prices. Scotch Shorthorns of either sex in age of highest breeding and quality. John Cardinhouse & Son, Highfield, Ont. L.-D. Phone.

PLEASE MENTION THIS PAPER.

GOSSIP.

Volume 15, of the Canadian Holstein-Friesian Herdbook, recently issued from the press, a copy of which, by courtesy of G. W. Clemons, Secretary and Editor, has been received at this office, is a substantial and well-printed volume, containing pedigrees of 2,614 bulls, numbering from 10522 to 12936, and 3,508 females, numbering from 15453 to 18961, a total of 6,122. A list of over 1,200 members is included in the volume, also a list of 72 Record of Merit bulls, 341 Record of Merit cows, and a report of 47 cows and heifers that have qualified in the Canadian Record of Performance test from June 1st, 1911, to February 1st, 1912.

BLACK DODDIES AT AUCTION.

Having leased one of their farms, Geo. Davis & Sons, of Glengore Farm, four miles from either Alton or Erin Stations, C. P. R., where conveyances will meet all morning trains on day of sale, are compelled to make a big reduction in their large herd of Aberdeen-Angus cattle, and on Wednesday, February 12th, will sell by auction thirty head, twenty-one of them registered, the balance Angus grades. Of the pure-breds, sixteen are females and five are bulls. Among the latter are the two stock bulls, Cochrane of Tweedhill 1905, a six-year-old Mayflower, and Middlebrook Prince 3rd 5888, a yearling Pride, sired by the Toronto champion, Hundred. The senior stock bull has proven his superior worth as a sire, his get showing a remarkable levelness and evenness of flesh. The young bull has all the qualifications and breeding that should make for success as a sire. The other young bulls are sons of the old bull, and look like show-ring material. Of the females, four are yearlings, six are two-year-olds, one is three years old, the balance mature cows. They are all of the popular Fair Lady and Mayflower tribes, in nice condition, and just the kind with which to start a herd of what has proven to be one of the world's greatest beef breeds. Remember the date, Wednesday, Feb. 12th.

LIVE-STOCK ASSOCIATION MEETINGS.

Following are the dates fixed for annual meetings of live-stock association members in Toronto. Members from east of Port Arthur should purchase single-fare tickets to Toronto, and secure standard certificate receipt from the ticket agent. On these being vised in Toronto, the holders will be returned free:

Dominion Cattle-breeders' Association, at the Walker House, Monday, February 3rd, 3 p. m.

Berkshire-breeders' Society, at the Walker House, Tuesday, February 4th, 9 a. m.

Ontario Large Yorkshire Swine-breeders' Society, Walker House, Tuesday, February 4th, 11 a. m.

Dominion Shorthorn Association, Tuesday, February 4th.

Dominion Swine-breeders' Association, in Temple Building (corner Bay and Richmond streets), room 2, 4th floor, Tuesday, February 4th, 2 p. m.

Ontario Horse-breeders' Association, Walker House, Thursday, February 6th, 10 a. m.

Ontario Sheep-breeders' Association, Walker House, Thursday, February 6th, 8 p. m.

Dominion Sheep-breeders' Association, Temple Building (corner Bay and Richmond streets), room 2, 4th floor, Friday, February 7th, 9 a. m.

Canadian Shire Horse Association, King Edward Hotel, Friday, February 7th, 2 p. m.

Canadian Pony Society, Prince George Hotel, Thursday, February 6th, 8 p. m.

Canadian Clydesdale Horse-breeders' Association, February 6th.

Canadian Holstein-Friesian Association, February 6th.

The Canadian Yorkshire-breeders' Association annual meeting will be held at Montreal, February 12th, at 10 a. m.

Imported Clydesdales and Percherons

AT AUCTION

On **FEBRUARY 5TH, 1913**

AT

MAHER'S HORSE EXCHANGE, TORONTO
 16-28 Hayden Street

T. H. Hassard, Markham, Ont., will sell at Auction, 25 Imported Clydesdale and Percheron Fillies, and 6 Clydesdale and Percheron Stallions. These mares are sired by such well-known horses as Baron of Buchlyvie, the \$47,500 champion sire, Baron Gibson, Baron Rothschild, Baron Albion, Baron Nelson Moncrieffe Marquis Pacific, The Bruce, Royal Fashion, Montrave Ronald, Musilino, Homer's Kyle and many others, and have been highly successful at the leading shows.

Some of these Percheron Mares were prizewinners at the Canadian National, Toronto, 1912, and first and champion at London, 1912. A three-year-old won the open mare class at Guelph, 1912.

The stallions are all young, up to good size, with lots of substance and quality and bred in the purple.

Owing to our barns being overstocked these all will be sold to the highest bidder.

Catalogues will be ready on Jan. 20, 1913, and may be obtained from either **JAS. TORRANCE, Markham, Ont., THE MAHER'S HORSE EXCHANGE, 16-28 Hayden Street, Toronto, Ont.**

T. H. HASSARD - MARKHAM, ONTARIO

Clydesdales & Shorthorns

FOR QUICK SALE

6 Imported Stallions—4 two-year-olds and 2 yearlings.

Also a number of in-foal mares and fillies, sired by Royal Edward, Hillhead Chief, Farmer's Counsel and Baron Lomond. The stallions are by such sires as Baron of Buchlyvie, Pride of Blacon, Baron Beaulieu, Cimaron and Brigadier General.

IN SHORTHORNS: One young bull fit for service, sired by (Imp.) Rob Roy; also a few heifers. Prices reasonable. Address:

Telephone in house. **W. W. HOGG, Thamesford, Ont.**

Clydesdales in Quantity and Quality

ORMSBY GRANGE STOCK FARM, Ormstown, P. Que.

As I am feeding no steers this winter I have filled my stables with imported fillies, selected personally in Scotland; many in foal to such sires as Hiawatha, Sir Hugo, King's Champion, Sir Rudolph, etc. Fourteen have been sold, eighteen of the best are still on hand—the selections being made more on account of price than superiority. There are no culls in the lot. Send for pedigrees and particulars before buying elsewhere. Inspection invited. **D. McEACHRAN.**

CLYDESDALES OF CANADA'S STANDARD

They have arrived—my third importation for 1912, stallions and fillies. I have now the biggest selection in Canada, and a few toppers in stallions. High-class breeding and high-class quality and low prices.

G. A. BRODIE, Newmarket P.O.

Clydesdales and Percherons

Stallions and fillies of either breed. Over forty head to select from. Draft horses in reality as well as in name. Highest types of the breeds. Come and see them. Terms and prices to suit. **T. D. ELLIOTT & SON, BOLTON, ONTARIO**

IMPORTED CLYDESDALES

A few choice young stallions always on hand and for sale. Frequent importations maintain a high standard. Prices and terms to suit.

BARBER BROS. Gatineau Pt. Que., near Ottawa.

Percheron, Belgian and Shire Stallions—Imported and home-bred. Three to four years old, maturing 1,800 to 2,400 lbs. No finer lot in America. Prices and terms reasonable. Barns in city.

LEW W. COCHRAN, Office, 205 Ben Hur Bldg., Crawfordsville, Ind.

Stallions — CLYDESDALES — Fillies

I have a big importation of Clyde stallions and fillies just landed; a lot that cannot be duplicated to-day in Scotland and never was in Canada. Let me know your wants.

ROBT. BEITH, Bowmanville, Ont.

CLYDESDALES OF SHOW CALIBRE

We have stallions and fillies of our 1912 importation that have won many first prizes and championships. This type, quality and breeding is unexcelled. Prices as low as any, and terms the best.

ROBT. NESS & SON, Howick, Que.

TRANSIT Insurance

HORSES and cattle shipped to the Western Provinces or elsewhere can be insured under short term Policies of 5, 10, 15, 20, 25, 30 days to cover the Railroad transit and a few days after arrival. These policies cover the Owner against loss by Accident or Disease and only cost a few dollars per carload.

Losses are heavy on Live Stock shipments on account of injuries sustained in cars through rough shunting, trampling, car fever, etc. not to mention numerous other causes resulting fatally a day or two after landing at destination. We cover both on board car and after arrival, some other companies do not cover after arrival. Insure with us and get the most for an equal premium. Do not take any chances with others.

All kinds of live stock insurance transacted. Write us for particulars and name and address of nearest agent.
Head Office:
THE GENERAL ANIMALS INSURANCE CO. OF CANADA, 71a ST. JAMES STREET, MONTREAL, Que.

Fistula and Poll Evil



Any person, however inexperienced, can readily cure either disease with Fleming's

Fleming's Fistula and Poll Evil Cure
—even bad old cases that skilled doctors have abandoned. Easy and simple; no cutting; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in Fleming's Vest-Pocket Veterinary Adviser.

Write us for a free copy. Ninety-six pages, covering more than a hundred veterinary subjects. Durable bound, indexed and illustrated.

FLEMING BROS., Chemists, 75 Church Street, Toronto, Ont.

QUESTIONS AND ANSWERS. Veterinary.

STIFF IN JOINT.

Mare is stiff in fore leg. When started she drops her toe, but soon gets all right. C. R.

Ans.—The symptoms indicate inflammation of the shoulder joint. Give her rest. Clip the hair off joint, and blister with 2 drams biniodide of mercury and cantharides, mixed with 2 ounces vaseline. Tie so that she cannot bite the part. Rub the blister in well once daily for two days. On the third day apply sweet oil, and turn loose in a box stall. Oil every day until the hair grows again. If necessary repeat the blistering in a month. V.

OPHTHALMIA—RINGBONE.

1. Mare's eyes discharge a great deal of fluid; and sometimes there appears to be a scum over them.

2. Horse has ringbone. We had it fired, but he is still lame. We do not want to punish him again unless certain of a cure. W. P. F.

Ans.—1. This is periodic ophthalmia, and it is probable it will result in blindness from cataract. Recurrence of the trouble cannot be prevented. Treatment consists in keeping in comfortable, partially-darkened stall. Get a lotion made of 10 grains sulphate of zinc and 10 drops fluid extract of belladonna, mixed with 2 ounces distilled water. Bathe eyes four times daily with hot water, and after bathing put a few drops of the lotion into each.

2. There is no sure cure for ringbone. In most cases, when firing has not effected a cure, a second firing is successful, but there is no surety of this. In such cases, the lameness can be cured by an operation by a veterinarian, which consists in removing the nerve-supply to the foot. This does not cure the disease, but cures lameness by removing sensation. V.

MISCELLANEOUS.

1. Three-months-old calf fed on milk and bran, refuses to eat the bran. He sweats a great deal, arches his back, and breathes heavily.

2. Another calf apparently all right was dead in an hour.

3. Another, three weeks old, refused his drink and gritted his teeth. I killed him.

4. A horse has a swelling the size of a hen's egg under his lower jaw. It looks like a ringworm. N.

Ans.—1. This is indigestion. Purge him with 8 ounces raw linseed oil, and feed a little chopped oats with the hulls sifted out, and a little linseed meal instead of bran.

2. It is not possible to say, without definite symptoms, what caused death. It probably choked to death, or ruptured an internal blood vessel. A careful post-mortem would have revealed the cause of death.

3. This was also indigestion. Treatment as advised for No. 1 would probably have saved it.

4. Ringworms are not like this. There is no tumor, and practically no elevation of the skin from ringworm. This is either a tumor or an abscess. If the former, it should be dissected out by a veterinarian; if the latter, it should be lanced, and then the cavity flushed out three times daily until healed with a five-per-cent. solution of carbolic acid. V.

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Under the ONTARIO STALLION ACT

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Absolutely harmless. Can be given to mares in foal before the eighth month. Horse owners write us that Neuvermifuge has removed from 500 to 800 bots and worms from a single horse. An animal that is wormy can't help but be ugly and thin. If your horses are troubled with worms send us your order today.

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Friday, February 7th, 1913

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Hold an absolute dispersion sale of their entire stock of high-class horses, among which are five imp. and one Canadian-bred Clydesdale stallions, two imp. Hackney stallions, seventeen imp. and four Canadian-bred Clydesdale mares and fillies, two Clyde filly foals, two imp. Hackney mares, imp. Hackney and Welsh ponies, several high-class harness horses. Many of these were prize-winners and champions at such exhibitions as Toronto and Ottawa. All are young and in prime condition. Stars for the show-ring or breeding purposes.

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QUALITY AND SIZE IN CLYDESDALES
For the best the breed produces in the combination of size, character, quality, breeding and action, see my 1912 importation of Clyde Stallions and Fillies. Prices and terms unequalled.
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Rosedale Stock Farm—Breeder and importer of Clydesdale and Shire horses, Shetland and Welsh ponies, Shorthorn cattle, Leicester sheep. Established over 40 years. Always on hand, a big selection of highest quality. Write your wants.
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Carefully and strongly built, of the highest grade material, these T-A Wide-Tire Steel Wheels will carry 25 to 30 per cent heavier loads without the least danger of breaking down or getting stuck.

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TORONTO CREAMERY CO., Ltd., Toronto

QUESTIONS AND ANSWERS. Veterinary.

UNTHRIFTY HORSE.

Horse eats well and feels well, but will not gain in flesh. His teeth are all right. S. McAF

Ans.—The symptoms indicate worms. Take 3 ounces each of sulphate of copper and tartar emetic. Mix, and make into 24 powders. Give him a powder every night and morning in damp food, and after the last one has been taken, give a purgative of 8 drams aloes and 2 drams ginger. V.

OPHTHALMIA.

Nine-months-old colt has sore eyes. The lids are swollen and closed. Upon examination I found a whitish substance covering the eye. E. G.

Ans.—Keep in darkened stall excluded from drafts. Get a lotion made of 10 grains sulphate of zinc, 10 drops of fluid extract of belladonna, and 2 ounces distilled water. Bathe the eyes four times daily with hot water, and after bathing put a few drops of the lotion into each eye. V.

UNTHRIFTY HORSE.

1. Four-year-old horse eats well and is well fed, but he is very thin, his hair is dry, and he tires easily.

2. Where can I procure a heifer of the same strain as the "musical ox," recently mentioned in these columns? We understand that music tends to increase the milk flow. A. R.

Ans.—1. It is probable he has worms. Take three ounces each of powdered sulphate of iron, sulphate of copper, and tartar emetic. Mix, and make into 24 powders. Give a powder every night and morning in damp food, and after the last one has been taken, give a purgative of 8 drams aloes and 2 drams ginger.

2. This ox is a prodigy. Animals with his peculiarities cannot be produced at will. Hence, you will have to entertain your milkers by music produced in some other way, if you wish more milk than they are at present producing. Real good things are not easily acquired. V.

GOSSIP.

The firm of Hickman & Scruby, Court Lodge, Egerton, Kent, England, exporters of draft horses and other pedigreed live stock, and who have a new advertisement in this issue, write: We are finding trade for draft horses exceptionally good. We have been consistent advertisers in your journal for several years past, so that your readers have got well acquainted with our name, and now that they have learned our methods, we are certain of a very big business. Many of those who are most pleased with what we have sent them, are men whom we have never seen, but who only know us from correspondence.

THE BIG CLYDESDALE AND HACKNEY SALE.

In last week's issue we gave a synopsis of the stallion end of the big dispersion sale of imported Clydesdale and Hackney stallions, mares and fillies to be held at Burns & Shepherd's Repository, Toronto, on Friday, February 7th, the property of The Graham-Renfrew Co., Limited. This week a little will be said of the female end. Of the twenty Clydesdale mares and fillies to be sold, sixteen of them are imported, one being eight years old, one five years, one four years, two three years, and eleven two years. They are a particularly well-bred lot, most of them with four and five numbered dams. In character and quality they are up to a high standard, there being much show-ring material among them, and representing many of the leading sires and prizewinners of Scotland. It is certain that never before has there been offered by auction in this country a lot up to so high a standard. They are all in prime condition, and many of them are safe in foal. Several particularly well-matched pairs are among them. Besides these, there are four Canadian-bred mares, and two filly foals, two imported Hackney mares, Hackney ponies, Welsh ponies, and high-class harness horses. All the stallions are Government inspected, and hold a certificate of soundness.

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We can ship you the above in mixed carloads or
FEED WHEAT, CORN, BARLEY and OATS

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We also have Canada Western Seed Oats for sale.

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WOODSTOCK - ONTARIO

THE GREAT CANADIAN ANNUAL SALE OF

Scotch Shorthorns

Will be held at the UNION STOCK YARDS, TORONTO, ONT., on

Wednesday, February 5th, 1913

Beginning promptly at 11 o'clock a.m.

W. R. Elliott & Sons, Guelph, Ont., will sell one bull, Climax, by Upper-mill Omega, from Imported Cinderella 9th, one of the best breeding cows we know, this bull is two years old, and he is one of the best and richest-bred young bulls, to be found any place. They also sell three females, two of them are Miss Ramsdens, full sisters, that have won second place in Toronto as produce of and both by the same sire as the great champion heifer that will be sold in this sale, a great pair, worth a lot; the fourth is a Brawith Bud, by same sire and from a Marquis of Zenqa mother, a grand heifer, too.

John Miller, Jr., Ashburn, Ont., will contribute seven head, two bulls and five heifers: Duchess of Glosters, one Beauty, one Matchless, one Cruickshank Village and one bull from Imported Fancy. A splendid lot of good going cattle, bred right, full of profit for the buyer, the best young things in his herd.

Robert Miller, Stouffville, Ont., will furnish 22 head, the best lot that have ever left Burnbrae Farm. There are seven bulls, a Broadhooks by Superb Sultan, a Cruickshank Buckingham by same sire, a great son of Imported Ruby 2nd by same sire, a great red bull from a Bruce Mary Lind cow, a Butterfly bull, one of the best we have seen, from imported dam and a Duthie-bred sire, he has full sister one of the best cows living, a brother at the head of one of the greatest herds in Canada. He is worth any price; one Jessamine of great merit. Making all told the greatest lot of bulls ever offered in any sale in Canada.

Mention this paper when you write

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Aberdeen-Angus by Auction

THE WORLD'S GREATEST BEEF BREED

At their farm, Glengrove, four miles from either Alton or Erin stations, C. P. R., where conveyances will meet the morning trains, Mr. Geo. Davis & Sons, will, on

Wednesday, February 12th, 1913

sell unreservedly by auction 30 head of Aberdeen-Angus cattle, 16 registered females, 5 registered bulls, balance grades. These are a choice lot, nearly all young, of the popular Mayflower and Fair Lady tribes.

TERMS: 10 months' credit, 5% per annum off for cash.

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Orchard-Grove Herd I have lately made a big importation of the leading herds of Illinois. In my herd you now have 25 Bulls to select from; a big range of Heifers and Cows. High-class show and breeding stock a specialty.

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15 SHORTHORN BULLS 15

We have been breeding Shorthorns on this farm for over 60 years, and I never saw a better lot of young bulls for sale than I have at the present time. Nearly all of the best Scotch breeding; reds and browns, from 10 to 24 months old. Also a few females and several registered Clyde fillies. Prices within the reach of all. Will quote prices, freight paid to your nearest station.

Claremont Stn., C.P.R., 3 miles.

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Shorthorns—Records show that cattle bought from the Salem herd won numerous ribbons the past season. We have others. Several young bulls are priced reasonably.

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J. A. WATT, Salem, Ont.

The Quickest, Simplest Cough Cure

Easily and Cheaply Made at Home. Saves You \$2.

This recipe makes 16 ounces of cough syrup—enough to last a family a long time. You couldn't buy as much or as good cough syrup for \$2.50.

Simple as it is, it gives almost instant relief and usually stops the most obstinate cough in 24 hours. This is partly due to the fact that it is slightly laxative, stimulates the appetite and has an excellent tonic effect. It is pleasant to take—children like it. An excellent remedy, too, for whooping cough, croup, sore lungs, asthma, throat troubles, etc.

Mix two cups of granulated sugar with one cup of warm water and stir for two minutes. Put 2½ ounces of Pinex (fifty cents' worth) in a 16-ounce bottle, and add the Sugar Syrup. It keeps perfectly. Take a teaspoonful every one, two or three hours.

Pinex is one of the oldest and best-known remedial agents for the throat membranes. Pinex is the most valuable concentrated compound of Norway white pine extract, and is rich in galic acid and all the other natural healing elements. Other preparations will not work in this formula.

The prompt results from this recipe have endeared it to thousands of housewives in the United States and Canada, which explains why the patent has been imitated often, but never successfully.

A guaranty of absolute satisfaction, or money promptly refunded, goes with this recipe. Your druggist has Pinex, or will get it for you. If not, send to The Pinex Co., Toronto, Ont.

"Go North Young Man"

WHY?

Because there are millions of acres of agricultural land in Northern Ontario, in some cases free, and in others at 50 cents per acre, excelling in richness any other part of Canada, blessing and waiting to bless the strong, willing settler, especially the man of some capital.

For information as to terms, homestead regulations, special railway rates, etc., write to

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Minister of Agriculture

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If the farmers of the Maritime Provinces, Quebec and Ontario want to make sure of getting the highest possible grade of seed oats for the spring of 1913, apply to us at once. To prevent a repetition of the disaster that befell so many farmers last year by sowing devalitized grain, we have stored at Point Du Chêne and Pictou 50,000 bushels of large selected, separated white seed oats, true to name and free from noxious weed seeds. If will be the farmers' own fault if they do not procure good seed, as the extra yield of these oats pays twice over the cost of the seed. Our firm name is stencilled on every bag. Do not allow the dealers to give you other than Read's oats for seed.

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Aberdeen-Angus of Show Form and Quality. For this season my offering in young bulls and heifers, are toppers, every one. Show-ring form and quality, and bred from show winners. **T. B. BROADFOOT,** Fergus, Ont., G. T. R. and C. P. R.

Clover Dell Shorthorns
Choice young stock of both sexes. Dual-purpose a specialty. Herd headed by (Imp.) Ivanhoe. **L. A. WAKELY, BOLTON, ONT.**

PATENTS procured everywhere
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GOSSIP.

Attention is directed to the new advertisement of Gunn's Shur-crop Fertilizer, which appears in another column. This firm is also advertising Shur-gain feed for stock and poultry. A firm which has had forty years' experience in this line of work should be able to give the trade what it requires. Look up the advertisement of Gunn's, Pork and Beef Packers, West Toronto, Ont.

SHIRES AND SHORTHORNS.

The most creditable phase of pure-bred live-stock breeding is to be able, through one's own efforts and intimate knowledge of breed characteristics to annually produce animals of a standard high enough to go out and win in the strongest company the country can produce at the big leading shows. This is exactly what John Gardhouse & Sons, of Highfield, Ont., have been doing for many years, at such great shows as Toronto, London, and the Guelph Winter Fair.

They breed their winners, and win with their own breeding, and as importers of Shires and Shorthorns, their entries are always at the top, and very many of the tri-colored ribbons have gone their way, particularly in Shires. In this breed of great draft horses, their present offering to the trade is a most attractive one, without doubt the choicest selection that has graced their stables in nearly half a century's experience. First, is the massive, quality stallion, Tuttlebrook Esquire (imp.), a bay three-year-old, that at the late Guelph Show headed his class of four. He is a typical draft horse with superior quality. Then there is the Guelph first-prize yearling, Gay Prince [725], a son of the great champion, Proportion (imp.), and out of the champion, Holdenby Nicausis (imp.). Other stallions are two bay yearlings, sired by the Guelph champion of 1911, Tuttlebrook King (imp.), one out of the Toronto champion, Tuttlebrook Gem (imp.), the other out of the splendid mare, Black Bess. They are an extra-choice pair. In mares and fillies, they have them from yearlings up, imported, Canadian-bred, from imported sires and dams, of a type and quality never excelled, and with the draftiness characteristic of the breed. All of the lot are for sale. The Shorthorns, as a herd, are too well known to need comment.

Every year brings out a lot that invariably wins their full share of awards at Toronto and London, and the herd has produced scores of winners at other big shows, in the hands of their owners, both in Canada and the United States. The herd is large, and their breeding the most popular, while the type is strictly modern. In heifers for sale are some remarkably choice, even-fleshed ones, that would be a valuable acquisition to any herd, and in young bulls there is a half-dozen yearlings, sired by the big, thick, mellow stock bull, Prince of Archers (imp.) (a Cruickshank Butterfly), and out of right good dams, carrying such blood as Broadhooks, Miss Ramsdens, Roan Ladys, C. Flowers, Rosebuds, etc. Among them are Toronto and London winners, and one of them out of last fall's winner at Toronto, London, and the late winter show at Amherst, N. S., in the milking Shorthorn class. They are a proper good lot of young bulls, probably as good a lot as the Messrs. Gardhouse ever bred. They are all for sale.

TRADE TOPIC.

MAPLE LEAF OIL CAKE.—Of all live-stock feeds, oil-cake meal is one of the most wholesome, safest, and best. It is also one of the most economical from a chemist's point of view, being very rich in that valuable flesh-forming and milk-making element, protein, also fairly well supplied with oil, while its fibre content is low. The protein is a nitrogenous substance, which means that oil cake, fed to animals, enriches the manure pile. We believe there is no better investment a farmer can make than to supplement his home-grown grains with a ton or two of oil cake per annum. The Maple Leaf brand of oil-cake meal is advertised in these columns by the Canadian Linseed Oil Mills, Ltd., of Notre Dame street, East, Montreal, Que., and Sorabren avenue, Toronto, Ont. Write for book, "Facts to Feeders," mentioning this paper.

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Your dairy equipment is not complete without one

If you haven't a Silo a little investigation will surely convince you that you ought to erect one before another winter. Most likely you have already come to that conclusion.

If you have then you certainly want the Silo that will give you the best service and keep your Silage in the best condition, and that is the Ideal Green Feed Silo.

Ideal Green Feed Silos are made from the very best material, and everyone contemplating the erection of a Silo this year will find it to his advantage to get our specifications and prices before contracting for the erection of a Silo. Look into this now while you have the time.

Silo Catalogue sent upon request.

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Livingston's OIL CAKE MEAL

Is the most wholly nutritious stock food you can buy. Made of the purest Linseed—by the celebrated Old Patent Process (which makes it keep three or four years, if necessary) proved by feeding tests, both practical and scientific, to be 95% digestible.

Even if LIVINGSTON'S OIL CAKE MEAL costs twice as much as the other foods which do not keep and cannot be half digested, it would pay every farmer and dairyman to get LIVINGSTON'S OIL CAKE MEAL. The cost is only a trifle higher.

LIVINGSTON'S OIL CAKE MEAL is really cheapest in the end—quickly increasing and improving the milk and healthy FATTENING CATTLE.

Ask your dealer. If he cannot supply you, write us.

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Manufacturers.
BADEN, ONTARIO. MONTREAL, QUEBEC.

SCOTCH SHORTHORNS FOR SALE

Two high-class imported yearling bulls. Eighteen bull calves, 8 to 14 months old, by the imported sires Bandsman and Village Duke. Forty heifers and young cows of best Scotch families, bred to imported sires. Some Toronto and London prizewinners, both sexes; also some imp. yearling heifers.

MITCHELL BROS.
Burlington, Ontario
Farm ¼-mile from Burlington Junction Station.



I Have SHORTHORN Bulls and Heifers, SHROPSHIRE and COTSWOLD Rams and Ewes, CLYDESDALE Fillies and Colts that are as good as I have ever had, and that I will sell for prices within the reach of all. We have been in the business 75 years, always in the front rank, and propose to keep that position. You cannot afford to buy without **ROBERT MILLER, STOUFFVILLE, ONTARIO** writing us for prices.

10 SHORTHORN BULLS 10

If in need of a bull those that we are offering should interest you. They range from 8 to 14 months old, and are nearly all bred direct from imported stock. We also have females of all ages. Bell-phone. Burlington Junction, G. T. R. **W. G. PETTIT & SONS,** Freeman, Ontario.

MEADOW LAWN SHORTHORNS of richest and most fashionable Scotch breeding, and of high-class type and condition. I can supply young bulls and heifers—Clarets, Roan Ladys, Mildreds, Stanfords, etc. **F. W. EWING, SALEM, ONTARIO** Elora Station.

1861 Irvine-Side Shorthorns 1912
Offering for sale young bulls and heifers that are the result of over 50 years successful breeding. Pure Scotch, and carrying the best blood of the breed. Few good Old Down rams. **John Watt & Son, Salem P. O., Ont. Elora Station, G. T. and C. P. R.**

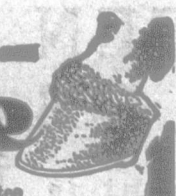
Shorthorns of breeding and quality—Our offering this year in young bulls and heifers, out of Scotch cow, and sired by our great Mildred Royal, are put up on show lines, and strictly first-class.
GEO. GIER & SON, Grand Valley, Ont., P. O. and Sta.

SCOTCH SHORTHORNS At prices that defy competition. I am offering a big, choice and royally-bred selection of females from calves up. Also a few right good herd headers, including my great stock bull, Lord Lavendar. **A. J. HOWDEN, COLUMBUS P. O., ONT.** Brooklin Sta., G. T. R.; Myrtle Sta., C. P. R.

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 breeding. **HARRY SMITH, HAY P. O., ONT** Exeter Station. Long-distance 'phone.



Ring-Bone



There is no case so old or bad that we will not guarantee Fleming's Spavin and Ringbone Paste to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cures. Works just as well on Sidebones and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of Fleming's Vest-Pocket Veterinary Adviser. Fifty-six pages of veterinary information with special attention to the treatment of blemishes. Durable bound, indexed and illustrated. Make a right beginning by sending for this book. FLEMING BROS., Chemists, 75 Church Street, Toronto, Ont.

NO MORE WET OR COLD FEET!!

With Health Brand Clogs on, the man or woman who works in the wettest, coldest places always has warm, dry and comfortable feet. Try a pair yourself this winter.



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Fine leather tops, hardwood sole and heel, cosily lined with warm felt. All sizes for men and women, delivered, all charges paid, ONLY **\$1.75**

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High-legged Wellingtons \$2.75 and \$3.25
Children's lace, 7's to 2's 1.25

Or if you wish to learn more about these wonderful Clogs before ordering, write to us for catalogue booklet, telling how Health Brand Clogs are made, etc., etc. Dealers, write for proposition.

CANADIAN FELT-LINED CLOG CO.,
Dept. S, 363 Spadina Ave., Toronto, Canada

Shorthorns, Cotswolds, Berkshires

For sale: 10 bulls, from 7 to 10 months; also cows, heifers and heifer calves. Would sell a few young Cotswold ewes. No Berkshires to offer at present.

CHAS. E. BONNYCASTLE
P.O. and Station, Campbellford, Ontario

Woodholme Shorthorns

I have for sale a number of choice young bulls, from 8 to 14 months old (pure Scotch); also a number of heifers, 1 to 2 years old, of this level type, and richest breeding. G. M. FORSYTH, North Claremont, Ont.

SPRING VALLEY SHORTHORNS

Herd headed by the two imported bulls, Newton Ringleader, =73783=, and Scottish Pride, =36106=. The females are of the best Scottish families. Young stock of both sexes for sale at reasonable prices. Telephone connection.

KYLE BROS. - - - Ayr, Ontario.

1854 Maple Lodge Stock Farm 1913

Am offering a very fine lot of young Shorthorn bulls just now. Excellent breeding and most from splendid milking dams. The kind that is needed.

House is one mile from Lucan Crossing, G. T. R.
A. W. SMITH, Maple Lodge P.O., Ont.

OAKLAND 50 SHORTHORNS

Present offering is eight bulls, including our champion stock bull, Scotch Grey, =72992=, all roans and reds. Also a goodly number of females. Young stock of both sexes for sale at reasonable prices.

JNO. ELDER & SON, HENSALL, ONTARIO

Fletcher's Shorthorns

Our herd of Pure Scotch Shorthorns (Imp.) or direct from imported stock, is headed by the grandly-bred Bruce Mayflower bull, Royal Bruce (Imp.) =55038= (89909) 273853. Choice young stock for sale.

GEO. D. FLETCHER, R. R. No. 2, Erin, Ont.

One Shorthorn Bull for sale

Also heifer calf of superior quality and breeding; their dams have been hand milked. Prices right.

STEWART M. GRAHAM, Port Perry, Ont

OWING to his heifers coming of breeding age

will sell or exchange my stock bull, Newton Ideal (Imp.). Sure, quiet and active.

J. A. CALDWELL, Box 10, Shanty Bay, Ont.

CEDARDALE SHORTHORNS

To make room for newcomers, I am now offering some rare value in Scotch-bred cows and heifers, beautifully bred and high-class in type; also 1 yearling bull.

Dr. T. S. Sproule, Markdale, Ont.

Spruce Lodge Shorthorns & Leicesters

Present offering: Young bulls and heifers from grand milking dams. Also a choice lot of Leicester rams and ewe lambs, and ewes of all ages bred to Imp. rams. W. A. Douglas, Tuscarora, Ont.

QUESTIONS AND ANSWERS. Miscellaneous.

WEANING FOAL.

What time would it be best to wean a foal which was born on the 10th of September, 1912? R. A. K.

Ans.—Some time in February.

ALMANAC.

Will you tell me where I can get a 1913 Live-stock Journal Almanac? R. G.

Ans.—From the publishers, 8 Breems Buildings, Chancery Lane, London, E. C., England.

FEEDING MILLET.

1. Is Hungarian seed used for any other purpose than for seeding?
2. If used for feeding, what would be the best way? A. B. B.

Ans.—1. Yes. It has a feeding value not quite equal to corn.
2. Grind it, and feed mixed with other grain, as corn or barley, or, better still, with some feed rich in protein. It should never be fed alone.

OATS FINE-GROUND OR CRUSHED.

Which is the better for cows giving milk, oats ground up fine, or crushed? They are fed on silage. W. W. J.

Ans.—We prefer fine-ground chop, but are not prepared to say how much better it is than grain which is merely crushed. One point in favor of fine grinding is that it is more likely to destroy the viability of weed seeds which may be in the grain.

HOLIDAYS—TERMINATION OF CONTRACT.

1. If I hire a man for four or five months, at \$30 per month, can he claim Christmas Day and New Year's Day as a holiday, him doing the chores only in the morning before he left?
2. Can hired man claim wages for the full two months, providing I told him he should quit and go home when he was with me for seven weeks? I. E. H.

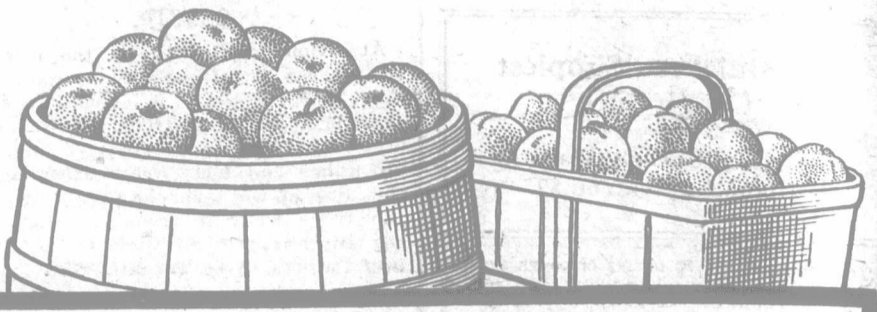
Ans.—He can claim these days, subject to doing of regular chores. He was not legally entitled to absent himself from the evening chores without your consent, or some satisfactory arrangement with you.

2. If the man was hired for the two months, or by the month, and you dismissed him without notice and without clear cause, he can claim payment in full for the two months.

COLT SWEATS — MARE KNUCKLES.

1. I have three colts which I keep running out during fair weather in daytime, and at night enclose in a box stall. I feed them good hay, oats, bran, and a few turnips. The hair on one of these colts is quite moist and sweaty in the mornings, while the hair on the others is quite dry and natural. Would you please give reason and remedy?
2. I have also a blood mare thirteen years old, which knuckles over at fetlock joint, caused by over driving about two years ago. The cords and joint are somewhat stiff, and she walks on her toe. Could I remedy this by extending the shoe forward of the toe, gradually?
3. She had one colt when about five years old. Do you think she would breed again? J. H.

Ans.—1. This colt likely has a thicker coat of hair than his mates. The stall may be warm, and the other colts may tease and chase him around. Give him a separate stall, continue to feed him well, and see that his stable is well ventilated.
2. Shoeing in the manner indicated will not help the trouble. It is doubtful now whether it can be cured. Clip the hair off the parts. Tie so she cannot bite them, and rub well once each day for two days, with a blister composed of 2 drams each of biniodide of mercury and emtharides, mixed with 2 ounces vasoline. On the third day wash off and apply sweet oil. Oil daily until the scale comes off, when the blister may be repeated if necessary.
3. It is possible. Try her, anyway.



Progressive Jones Says:

"Get More Barrels And More Baskets"

I tell you, friend, that you can make your trees yield you more barrels and baskets of luscious fruit by enriching the soil with the profit-making

Harab FERTILIZERS


I know fruit growers who are many dollars richer from using Harab Fertilizers last year. I know of some who won prizes for their fruit—one being a prize winner at International Apple Growers' Association at Chicago. These prize winners attribute their success to Harab Fertilizers.

Now, friend, if Harab Fertilizers have done so well for other fruit growers, vegetable growers and farmers, isn't it reasonable to expect they will do as well for you? Isn't it worth while trying them for at least half your orchard? Then make a careful count and see how many more barrels and baskets of big, sound fruit you get from the fertilized trees than you do from the unfertilized. If the results don't warrant you using Harab Fertilizers on your whole orchard next year, well, I'll be surprised, very surprised. But I'll bet the surprise will be on the other foot, when you see how many more dollars a small investment in Harab Fertilizers will bring you.

There's an interesting booklet, describing the 14 different Harab Fertilizers—each for a particular purpose. The Harris Abattoir Co. promise me they will send my friends copies without charge. Just write them for a copy to-day.

Yours for more fruit profits
Progressive Jones

The Harris Abattoir Co., Ltd., Toronto 12




The Auld Herd and Pleasant Valley Shorthorns

Bulls like "Meadow Signet" =86823= are not easy to find. We have him and several others for sale. Those looking for bulls should make us a visit or at least write. Prospective buyers met at either Guelph or Rockwood.

A. F. and G. AULD
EDEN MILLS ONTARIO

SHORTHORNS!

Have now a choice lot of young bulls to offer; also with something nice in heifers. Catalogue of herd and list of young animals on application. H. Cargill & Son, Props., John Clancy, Manager. Cargill, Ont., Bruce Co.



Willow Bank Stock Farm

Shorthorn Herd Established 1855. The grand imported Butterfly bull, Roan Chief =60865=, heads the herd. Young cows and heifers bred to him; also an exceedingly good lot of young bulls on hand, fit for service and at very reasonable prices. Some from imp. dams.

JAMES DOUGLAS, Caledonia, Ont.

Brampton Jerseys

Bulls fit for service are getting scarce. Just a few left. Yearling heifers in calf are in great demand, 6 for sale; 6 now being bred. Brampton Stockwell the sire. A few good cows and some calves for sale. Production and quality.

B. H. BULL & SON, Brampton, Ont.

DON JERSEY HERD

Offers young bulls and heifers for sale; heifers bred to Eminent Royal Fern.

D. DUNCAN, DON, ONTARIO
Phone L.-D. Agincourt. Duncan Stn., C. N. R.

Balaphorene Farm Jerseys Present offerings: Choice bull calves from three to sixteen months, at very reasonable prices for quick sale. **JOSEPH SEABROOK, Havelock, Ontario.**

For Sale—Jersey cows and heifers and bulls for exportation. All pedigree and Herd-book stock. For further particulars apply to **A. T. SPRINGATE, Breeder and Exporter, Gorey, Jersey, Europe.**

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A well-balanced Molasses Feed
FOR DAIRY CATTLE

Made by
The CHISHOLM MILLING CO., Ltd
Toronto, Ont.
Write for prices and particulars.

**Maple Grove, Crescent Ridge and
Welcome Stock Farms—**
Motto: Richest breeding, superior individuals,
representing the famous Tidy Abbecker's, the
Mercena's, also granddaughters of Pieterje Hen-
garveld's Count De Kol, and Pontiac Korndyke
and other rich producers; 100 head to select from.
Also Lyons Hengerveld and two grandsons of
Pontiac Korndyke head the herds.
H. BOLLERT, Tavistock, Ontario
R. R. No. 1.

**PURE-BRED REGISTERED
Holstein Cattle**
The most profitable
dairy breed, greatest in
milk, butter-fat and
in vitality. Send for
FREE illustrated descriptive booklets.
HOLSTEIN-FRIESIAN ASSOCIATION,
P. L. Houghton, Sec., Box 127, Battleboro, Vt.

Holsteins of Quality
Write us to-day for our proposition, telling
you how any good dairyman may own a
registered Holstein bull from a Record-of-
Performance cow without investing a cent
for him.
MONRO & LAWLESS, "Elmdale Farm"
Theriot, Ontario

The Maples Holsteins
I am now offering for sale 10 young bulls, official
record backing on both sire's and dam's side. They
are good enough for service, and my prices should
sell them.
WALBURN RIVERS, Folders, Ont.
Phone.

Maple Holstein-Friesians Special offer-
ing: Bulls
from 1 to 15 months old. The growthy kind that
will give good service. One from a son of Ever-
green March, and all from Record of Merit dams.
Write for particulars. **G. W. CLEMONS, St.**
George, Ont. Bell telephone.

Glenwood Stock Farm 5 BULL CALVES
fit for service,
HOLSTEINS out of big milk-
ing strains, at low
figure for quick sale. **THOS. B. CARLAW &**
SON, WARKWORTH, ONT., Campbellford Sta.


Ridgedale Holsteins—We have a couple of
3-year-old heifers for sale, one due
to calve in February, the other is bred; both are
milkng now; also a few bull calves for sale, one
over a year old. Shipping stations: Port Perry,
G. T. R., and Myrtle, C. P. R., Ontario County.
R. W. WALKER, Utica, Ont.

Hillcrest Ayrshires—At head of herd is
Ivanhoe of Tangle-
wild, a son of the champion Ayrshire cow, Primrose
of Tanglewild, R.O.P. test 16,195 lbs. milk and
625.62 lbs. fat; 60 head to select from. Inspection
invited. **F. H. HARRIS, Mt. Elgin, Ont.**

High-class Ayrshires—If you are want-
ing young bull out of a 50-lb. a day and over cow, im-
ported or Canadian-bred dam and sire, write me.
Females all ages. Prices are easy.
D. A. MACFARLANE, Kelson, Que.

FAVORED EXECUTION.
A young lady attended a fashionable
party where a noted pianist was the lion
of the evening. After the artist had
played several selections, the young lady
leaned over to an elderly gentleman sit-
ting next to her, and queried:
"What do you think of his execution?"
"I favor it," was the response.

**Chapped Hands
Won't Bother
You**
if instead of
soap you use
SNAP, the
original hand
cleanser.
SNAP con-
tains no lye or
acids, but glycerine and neutral
oils which keep the skin smooth
and in splendid condition.
Try **SNAP** for a week and notice
the difference. 47



SNAP
Order from your dealer to-day. Save coupons.

QUESTIONS AND ANSWERS. Miscellaneous.

GRAPE TRELLIS.

In "The Foundation of American Grape
Culture," there is described by the au-
thor, the Munson three-wire trough trellis
system of grape trellis. Can you
tell me whether this is in use to any
extent, or approved of by vinegrowers?
I have seen none in Western Ontario,
and while his system seems to be rea-
sonable, and based on experience, plus
common sense, still there may be draw-
backs from our point of view (climatic
and market), which would make it un-
suitable for adoption here. A. F. W.

Ans.—The Munson three-wire trough
trellis system of grape pruning is not
practiced in Ontario. It is possible,
however, that the system might have de-
cided advantages. So far as I know,
it has never been tried here.
J. W. CROW.

BREACH OF CONTRACT.

If A hired B for five months, at \$20
a month, B stayed 25 days, had 4 lost
days. B left of his own accord. When
going, said he had no fault to find with
the place.

1. Can B collect a month's wages?
2. Can A make B put in full time?
3. Can A make B pay for what he lost by his leaving?
4. If A does work for B without any bargain, can B collect wages for same?

Ans.—1, 2 and 3. This is one of those
cases which the Court would be disposed
to settle upon its merits. If B failed
to fulfil his engagement, with no good
and sufficient reason to excuse him, A
would not be required in settling, to
pay him pro rata for time put in, but
might deduct what was reasonable and
fair, having regard to the inconvenience
and loss to which A may have been put
by the breach of contract.
4. Probably, depending, however, upon
the circumstances.
M. M.

MEASUREMENTS FOR THREE- HORSE LINES.

Kindly answer the measurements of
your three-horse lines that appeared
some time ago, as I lost the number
with it in.
J. A.

Ans.—Taking an ordinary pair of lines,
punch a few holes from three to five
inches back of the cross-line buckles.
Make a pair of short checks about ten
inches long, each with a buckle on one
end. Slip the long end of the main
line through this buckle. To the other
end attach an extra cross line, 7 feet 4
inches long, with the usual buckle on the
rear end. Slip the strap end of the
short check through this buckle, and ad-
just length to suit the team. The extra
cross lines pass to the inside bit rings
of the two outside horses. When four
horses are driven, the extra cross lines
pass to the inside bit ring of the second
horse from the outside in each case, the
outer horse being tied back to the hame
of his mate with an ordinary tie strap.

SILLO QUESTIONS.

1. How many acres of corn would it
take to fill a silo 10 x 25 feet?
 2. What is the best variety of corn to
plant?
 3. Is it better to sow it in drills with
seder, or plant it in hills?
 4. How many cows would a silo,
filled, 10 x 25, feed, feeding each cow 35
lbs. per day, for six months? D. M.
- Ans.—1. Such a silo would hold be-
tween 35 and 40 tons if well filled.
Three or four acres of good hill corn
should fill it. Three acres of drilled
corn should do it easily, drilled corn be-
ing nearly always thicker than hill corn,
but not usually so well eared, and often
not so well matured.
2. For your section, White Cap Dent
should be very suitable. If near the
lake, possibly you might grow Early
Leaming satisfactorily.
3. We prefer hill-planting, and practice
it exclusively.
4. At this rate of feeding, each cow
would require a little over three tons of
silage. Your silo would suffice for ten
or twelve, depending upon whether there
was any waste, and upon the closeness
of filling.

HIGHEST PRICE FOR CREAM

T. EATON CO. LIMITED is now paying 31c per lb. for
Butter Fat. We buy cream, sweet or sour, of good
flavor. We furnish the cans and pay the express
charges within a radius of 250 miles of Toronto.

We test and weigh each can on arrival, and send
you a statement for same.

We pay all patrons once a week, and the price is
increased as the price of butter advances.

Drop us a card, and we shall be pleased to furnish
you with any further information you may require.

THE T. EATON CO. LIMITED
TORONTO - CANADA

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DAIRY MEAL

PARK FEED MILLING COMPANY, LIMITED
17 River Street Toronto, Ontario, Canada

LAKEVIEW HOLSTEINS

We have a few bulls left that are ready for service, and must sell them now, as
our barns are full. They are sired by Count Hengerveld Payne De Kol, or out of
his daughters by Dutchland Colantha, Sir Mona, and all their dams are in the
Record of Merit. For immediate sale the prices will be greatly reduced. A
post card will bring extended pedigrees by return of mail.

E. F. OSLER, BRONTE, ONTARIO

FAIRVIEW FARM'S HERD

OFFERS sons of Pontiac Korndyke
25983, the greatest sire that ever lived,
and the only bull that ever sired 12
daughters that have made 7-day records above 30 pounds each. Do you want your
next bull to be a brother to such cows as Pontiac Lady Korndyke (38.02), Pontiac
Pet (37.67), Pontiac Clothilde-De Kol 2nd (37.21), Sadie Vale Korndyke (36.20),
and eight others above 30 pounds? If you do, write me for price on a son of
Pontiac Korndyke. I also have sons of Rag Apple Korndyke and Sir Johann
Colantha Gladi. **E. H. DOLLAR, HEUVELTON, NEW YORK. Near Prescott.**

Summer Hill Holsteins

Would you like your next bull to be from the same sire as the heifer that holds the world's
record for yearly work, and the same sire as the Champion Cow of Canada in the seven day work,
and the same sire as the Champion four-year-old of Canada in the thirty day work? We have bulls
of this breeding to offer whose dams have records of over 27 lbs. We have also some extra choice
heifers bred to our junior herd bull whose dam has a record of 24.60 lbs. butter in seven days and 111
lbs. milk a day. Yorkshires of all ages. **D. C. FLATT & SON, R. R. No. 2, Hamilton, Ont.**

HOLSTEINS AND YORKSHIRES We have at present a number of two-
year-old heifers, some in calf and some
just bred, also our stock bull King Peter Teak sired by Peter Teak O. A. C., dam Queen
Mabe. Also some sows safe in pig. **A. WATSON & SONS, R. R. NO. 1,
ST. THOMAS, ONTARIO.**

Evergreen Stock Farm High-class Registered Holsteins

For sale: A few choice young bull calves and females, all ages; good enough for foundation stock
A. E. HULET, Norwich, Ontario.

Woodbine Holsteins

Herd headed by King Segis Pontiac Lad, whose
sire's dam is the champion cow of the world.
Sire's sire is the only bull that has sired five
four-year-olds that average 30 lbs. each. Dam's sire is the bull that has sired two 30-lb.
three-year-olds. His two great grand sires are the only bulls in the world that have
sired two 37-lb. cows. Bulls and bull calves for sale. **A. KENNEDY, AYR, ONT.**

Choice Bull for Sale—One year old and ready for service. Wonderful depth and con-
stitution, his dam, "Jan the Jewel Mechthilde 3r", champion cow at Toronto,
Record, 22.21 lbs.; g. dam 27 lbs.; sired by our great stock-getter, "Grace Fayne 2nd Sir Colantha."
Price \$200. Also young females.
M. L. HALEY & M. H. HALEY, Springford, Ont.

80 Imported and Canadian-bred Ayrshires

I am now offering by private sale my entire herd of 80 Ayrshires, im-
ported, imp. in dam and Canadian-bred; big producers, show stock,
high-class in quality, with best breeding. **L.-D. PHONE. DAVID HUNTER,
MAXVILLE, ONTARIO**

Stonehouse Ayrshires

Of choicest imported stock and with imp. sires and dams. I am offering young cows, 3, 4
and 5 years of age; a grand bunch of imp. yearling heifers, and a particularly good pair
of young bulls.
L.-D. Phone. HECTOR GORDON, Howick, Que.

Ayrshires and Yorkshires—We now offer at bargain bull calves dropped in
July, 1912. All bred from (imp.) sire and from either
dams with good records, or their daughters either
imported or home-bred. Some choice February
pigs; also young pigs.
Alex. Nemo & Co., Menie, Ont.

City View Ayrshires—Three young bulls fit for service; females from 3 months to
9 years; all young stock 3 years and under from R. O. P.
ancestors. Always something for sale. Bell phone connections; 1 1/2 miles from 5 railroad stations.
JAMES BEGG & SON, R. R. 1, St. Thomas, Ont.

Cattle and Sheep Labels

A cent spent now may be the means of saving you three calves next fall. Send your name and address for free sample and circular. It is no trouble, and you can judge them for yourself. Write to-day.

F. G. JAMES, Bowmanville, Ont.

Farnham Oxfords and Hampshires. The oldest established flock in America. Present offering: a few two-shear and older ewes of both breeds, bred to our imported champion ram.

Also a few nice ewe lambs by imported sires. Prices reasonable. Henry Arkell & Sons, Arkell, Ont. L.-D. phone in house.

Dorset Ewes

In lamb. Ewe lambs. Chester White Boars about five months old. One Holstein bull 12 months old. All of the choicest breeding, and will be sold at a bargain to make room.

R. H. HARDING, THORNDALE, ONTARIO
Mapleview Farm.

ALLOWAY LODGE STOCK FARM SOUTH DOWNS ANGUS COLLIES

The best in their respective breeds. Write for information to:

ROBT. McEWEN, Byron, Ont.
R.R. Stn. and Tel. Office, London.

SPRINGBANK FIFTEEN EWE LAMBS
OXFORDS! by imported sires. Prices right. Order quickly.

WILLIAM BARNET & SONS,
LIVING SPRINGS, ONTARIO.

Quality Oxford Downs Winners. Imp. and prize-winning stock. 1 and 2 shear rams and ewes, ram and ewe lambs; many winners among them, the highest types of the breed.
E. BARBOUR, Erin P.O. & Sta. L.D. phone.

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs. Present offering: Lambs of either sex. For prices, etc., write to John Cousins & Sons, Buena Vista Farm, Harriston, Ont.

Maple Grove Yorkshires & Holsteins

Eight young boars fit for use; good, long, straight, growthy ones, and young pigs of various ages and both sexes, sired by S. H. Jack (28315) (imp.), for three years champion at Toronto. A few beautiful sows, big enough to breed.

One two-year-old Holstein bull—a show animal that has few equals—to be sold very cheaply; out of a heavy milking dam. One yearling Holstein bull, a good one, sired by Dutchland Olantha Sir Abbecker, and out of a grand young cow; also a heifer calf, just lately dropped, a beautiful, straight calf, out of the same dam; also grade heifer, calves and yearlings. All will be sold at bargain prices.

H. S. McDIARMID, Fingal, Ont.
Long-distance phone. Shedden Station.

Large White Yorkshires

Have a choice lot of sows in pig. Boars ready for service and young pigs of both sexes supplied not akin at reasonable prices. All breeding stock imported, or from imported stock from the best British herds. Write or call on

H. J. Davis, Woodstock, Ont.
C. P. R. and G. T. R. Long-distance phone.

Newcastle Tamworths and Shorthorns

Present offering. Seven boars from 6 to 10 months old; boars and sow pigs 6 weeks to 4 months; sows bred and others ready to breed, from such noted stock as Colwill's Choice, Canada's champion boar, 1901, '02 '03 and '05, and Imp. Cholderton Golden Secret. Also a few choice Shorthorn heifers in calf; beef and milk combined. Show stock a specialty. Prices right. L. D. phone A. A. COLWILL, Newcastle, Ontario.

Duroc Jersey Swine AND JERSEY CATTLE.

Grand stock, either sex, constantly for sale. Price reasonable. MAC CAMPBELL & SONS, Northwood Ontario.

TAMWORTHS A few sows bred to farrow in February and March; also choice pigs from three to five months. Bell phone. HERBERT GERMAN, St. George, Ont.

Cloverdale Berkshires—Present offering and others ready to breed, also younger stock of both sexes. Prices reasonable.

C. J. LANG, Hampton, Ont. Durham Co.

SWINE OF ALL BREEDS FOR SALE. Yorkshires, Tamworths, Berkshires, Hampshires, Chester Whites, Poland-Chinas, and Duroc-Jerseys. I have constantly on hand both sexes of all ages. Show stock a specialty. John Harvey, Frelighsburg, Que.

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QUESTIONS AND ANSWERS. Miscellaneous.

VETERINARY TRAINING.

1. Give address of some reliable Veterinary College.

2. Would a home-course education be advisable? F. B.

Ans.—Ontario Veterinary College, Toronto.

2. It would not be a satisfactory way to become a practical veterinarian.

HENS DIE.

Could you tell me what to do for my hens? Some of them suddenly get lame, but I cannot see what causes it. I have brushed their legs with coal oil, but it does not seem to do them any good. Others seem to have diarrhoea, their heads get white, and in a short time they die. They are housed in a new hen-house, with plenty of light and ventilation, with an earth floor, but it is not damp. They are fed whole wheat in the morning, scattered in straw; at noon, a mash of boiled potatoes, and chopped oats, barley and peas, with rolled oats instead of mash sometimes for a change, with the wheat, again about half-past four. They have apple parings, and turnips, raw, nearly every day, but are getting practically no meat. Clear water to drink. L. W. M.

Ans.—This may be tuberculosis, or it may be rheumatism, or diarrhoea, caused by improper feeding or housing. Are you sure the house is well ventilated, and still free from drafts? Decrease the roots and green feed, and feed a little meat food, or give skim milk to drink. It might be well to send a bird to the Bacteriological Department of the Ontario Agricultural College for post-mortem examination.

COW FAILS TO CONCEIVE.

One of our best cows fails to get with calf. Can you tell me of anything that will help it, as we do not want to part with her if we can help it? Do you recommend the yeast treatment, and, if so, would you give directions for it? I have seen it in your paper, but we cannot find it, as that number has been destroyed. E. H. S.

Ans.—There are many causes of sterility. If it is due to disease of the ovaries nothing can be done. The most common removable cause is closure of the opening through the neck of the womb. It is also claimed that bacteria in the vagina is a common cause, and that the yeast treatment referred to will have the desired effect. It will do no harm to try it. It consists in pouring a little warm water on an ordinary yeast cake, allowing it to stand for about 24 hours, and then adding water to make a quart, allowing this to stand another 24 hours, and injecting this into the vagina about an hour before service. When the cow shows oestrus, have the neck of the womb examined. The operator oils his hand and arm, and inserts hand through vulva and vagina until the fingers meet the neck of the womb. If it be closed, he dilates the passage with his finger, or if necessary, uses a sound, or some instrument (perfectly smooth hardwood has been used) about one-half inch in diameter. Having dilated the opening, inject the solution into the vagina, and breed in about an hour.

GOSSIP.

CANADIAN AYRSHIRE-BREEDERS' ANNUAL MEETING.

The annual meeting of the Canadian Ayrshire-breeders' Association, to receive reports of business done, the election of directors and officers, and for the transaction of new business, will be held in Room No. 6, Monument National, 296 St. Lawrence Boulevard, Montreal, Que., on Wednesday, February 12th, at 10 o'clock a. m. The Directors will meet in the Board Room of the Queen's Hotel (corner Windsor and St. James streets), on Tuesday, February 11th, at 10 a. m. A banquet is being arranged for on the evening of February 12th, in the Queen's Hotel, at which addresses will be given by prominent agriculturists and stockmen. Those attending the meeting should purchase one-way first-class tickets, and secure from the Agent at starting-point a Standard Convention Railway Certificate.—W. F. Stephen, Secretary-Treasurer.

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Bradford or Beeton stations. Long-distance phone.

Belmont Shropshires and southdowns

I have a grand lot of rams and ewes for sale, both breeds. Anyone wanting a good ram, or a few good breeding ewes, should write me at once and get the first choice.

C. Hodgson, Brantford, Ont.

COTSWOLDS AND SHROPSHIRES At Toronto I won 1st and 2nd flock champion on both ram and ewe in Cotswolds. I have for sale a big lot of shearing rams and ewes, ram and ewe lambs of both breeds, strictly high-class.

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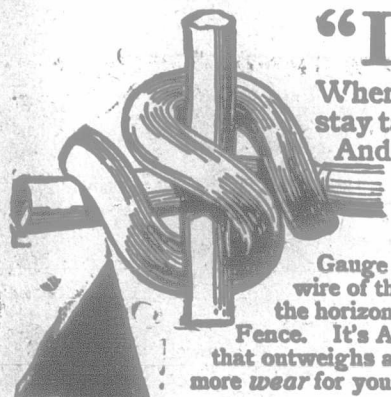
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are founded on the famous old Sully tribe, noted for big size, length of body and strength of bone. We can supply pairs and trios not akin. Show stock a specialty. Also high-class Cotswolds, ram and ewe lambs, shearings.

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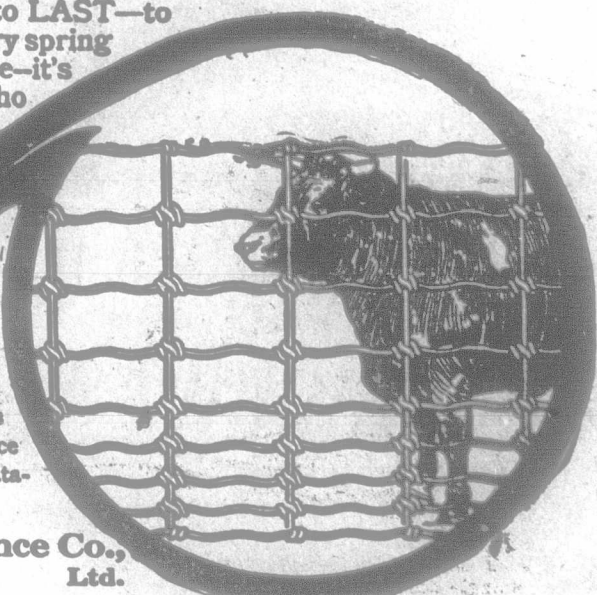
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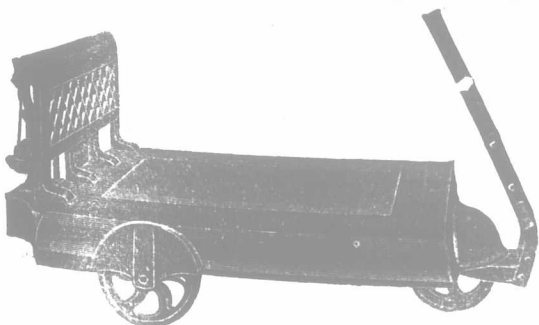
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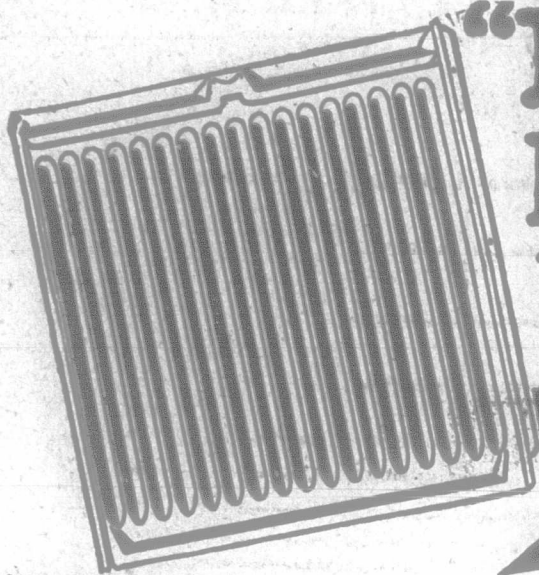
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The attacks and onslaughts of animals can't faze it. It's strong, yet springy. Manufactured from Open Hearth steel galvanized wire. When made by this process, impurities are burned out of the metal, removing one of the chief causes of rapid corrosion or rusting.

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"I AM making one metal shingle to-day which is used all over the world. I have just started making for sale a new and bigger shingle. This was invented by my son, the late George H. Pedlar, Jr., to cover the big roof surface of the modern barn."

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"You, and I, and my son, realized how lumber is getting scarcer, high in price, and wood shingle much poorer in quality as the years go on. Lumber is used in barns to-day that would not be looked at twenty years ago. Labor asks much higher wages."

"To-day, my 'George' Shingle on the roof, and sheets of my galvanized, corrugated iron on the walls, instead of boards, makes you a better barn at less cost than an all-wood barn properly painted. It saves in the labor needed."

"I am ready to help you build a better barn than you planned, and yet save you money. Use my 'George' Shingle and my corrugated iron, and you save so much in lumber bills, repairs and paint, and labor of construction, that it pays to use my fireproof material. You get a better barn at an astoundingly moderate figure."

"I have just written you a book about this. It shows how one of these new barns is built. My galvanized, corrugated iron is used on the walls and my 'George' Shingle on the roof."

"Won't you send to me for this book, friends? I will be glad to send it anywhere. It probably will help you. It shows the most economical way to build a barn now-a-days. Write a post card for it." *G. H. Pedlar*

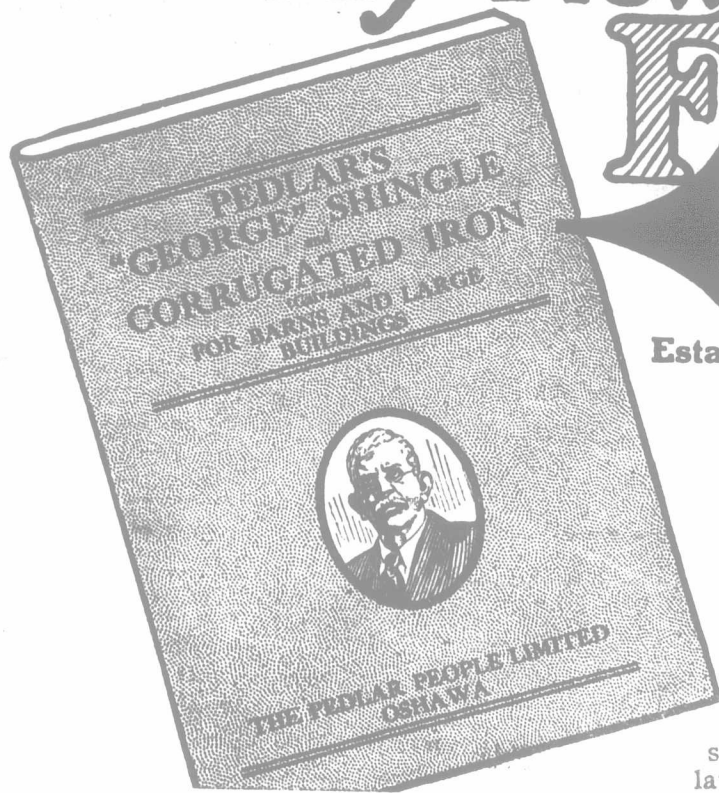


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