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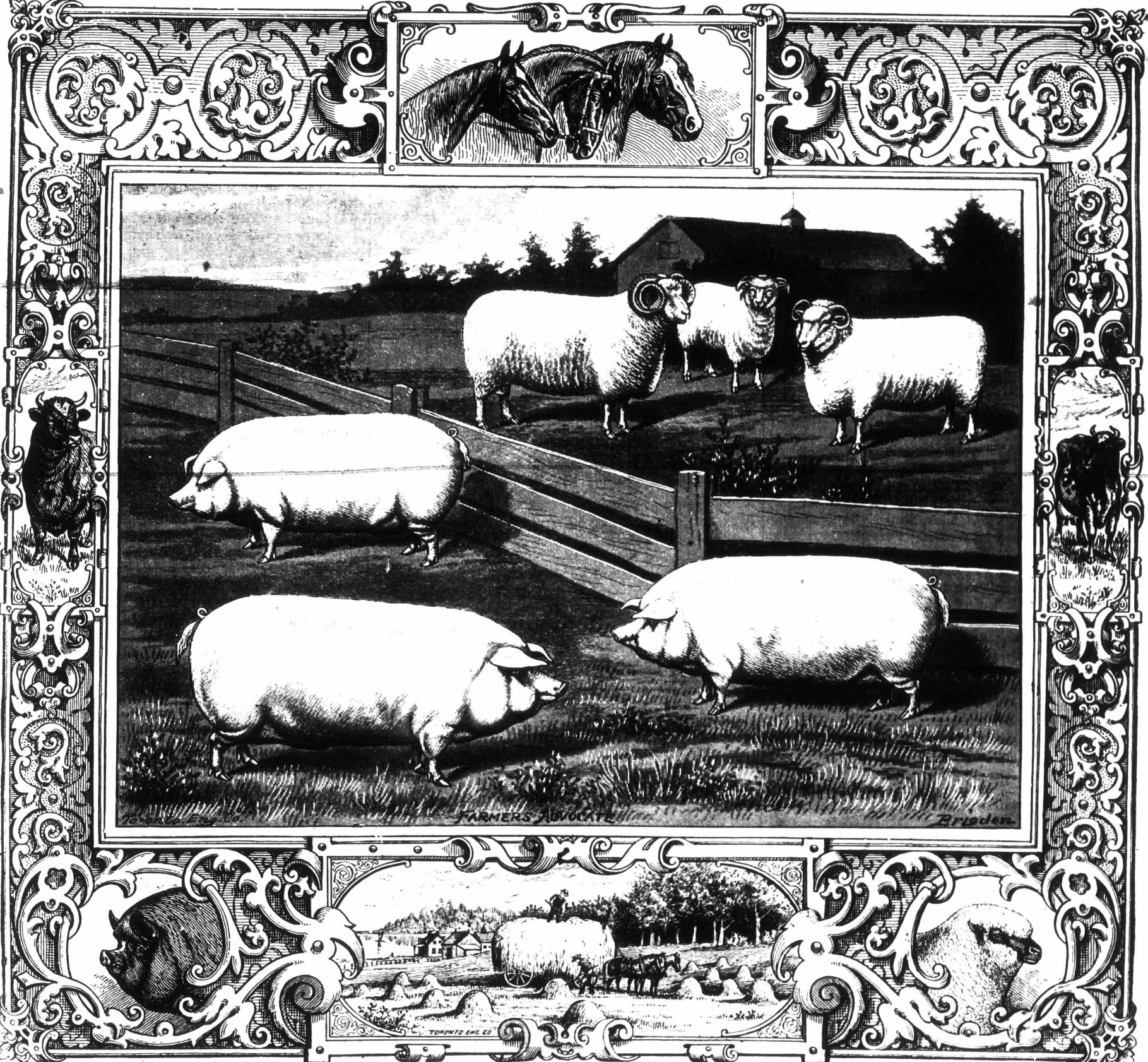
# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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SPECIMENS OF CHESTER WHITE SWINE AND DORSET HORN SHEEP.  
 THE PROPERTY OF R. H. HARDING, THORNDALF, ONTARIO.



## EDITORIAL.

## Mr. R. H. Harding's Chester Whites and Dorset Horns.

The illustration that adorns this issue represents three Chester White pigs and three Dorset Horn sheep, the property of Mr. R. H. Harding, Thornedale, Ont. They are a very superior lot. The pigs were bred by the owner, and reflect credit on Mr. Harding's judgment as a breeder and feeder. The two-year-old sow, Maplevue Queen, No. 185, which stands to the right, was sired by Broadbrim, Nos. 128 and 4855; dam, Annie Lawrie, Nos. 152 and "7462." Maplevue Queen has been a winner whenever shown, winning sweepstakes at the last Provincial Fat Stock Show, held at Guelph, for brood sow and two of her offspring. When in show condition she weighs over 700 pounds, and is remarkably well-developed, smooth and active. The barrow that stands to the left is a model in every respect. His sire is Silverchief, No. 66; dam, Maplevue Queen. The yearling sow, Perfection, that stands to the left in the illustration, has the record of never yet being beaten in the show ring. She won first in a ring of six models at the Toronto Industrial in 1892; first and diploma at the Western Fair, London, 1892; first at the Provincial Fat Stock Show, held at Guelph, December, 1892, and also won the red ribbon for the best sow any age or breed at the same show. She is, we think, all her name indicates. Her weight, when 14½ months old, was 525 pounds. She is now heavy in farrow. Her sire, Silverchief, No. 66, although never fitted for show, won first and diploma at the Western Fair at London, 1892. He was bred by S. H. Todd & Son, Ohio, and has proved himself capable of producing first-class bacon hogs. Mr. Harding has wintered over 30 pigs, all kept for stock purposes, and they are one and all of first-class quality. Some of them, no doubt, will be heard from as winners in the near future. He has now a number of young pigs, and eight sows yet to farrow, which will give intending purchasers a chance to buy young stock from a herd that has won such prominence, although only established four years.

Three imported boars are used in the herd, two of which were imported from Messrs. Todd & Son, the other from Mr. Martin, Alexandria, Ohio. Each of these animals is individually good, and their pedigrees are as good as the best.

The Dorset ewe to the right is Cottage Graceful (imp.) 108; she is from the noted flock of Charles Hawkins, Dorchester, England. The ram to the left is John Bull 270, imported in dam by Messrs. Tazewell & Hector from the flock of Culverwell Bros., Bridgewater, Dorchester, Eng.; he is a large yearling, exceedingly well covered with wool. It is said his sire cost 40 guineas. The ewe lamb in the background, Harding's No. 16, weighed when 53 days old 55½ lbs. She was sired by The Colonel 193; dam Lady Jane, No. 28. This lamb is now nearly five months old, and is growing very nicely, nor is she an exception, judging from the appearance of the rest of the lambs. Some of Mr. Harding's ewes that lambed in the fall are now heavy in lamb, and some that lambed during the winter have again been served, which goes to prove that these sheep will continue their peculiar fecundity in the Canadian climate. The owner of this stock feels confident there is a bright future in store for Dorset Horns in America. The foundation of this flock was imported from the noted English flocks of Chick, Hawkins, Roper and Culverwell Bros. The animals at present in the fold number about forty, and are of uniform quality, large, thrifty, and well woolled; in fact, the breeding stock, both sheep and swine, are first-class in every respect, and the owner a straightforward and honorable man, who deals in all cases with conscientious uprightness. His farm is located 2½ miles from Thorndale Station, Stratford branch G. T. R., in Middlesex county, 10 miles from London, Ont.

This is the time to spray the fruit trees to destroy the bud moth. This little insect lays its eggs on the leaves of the trees about June. The larvae feed upon the under side of the leaf, and because of the protection afforded by the leaf and also by a small silken covering, little can be done to lessen their numbers at that stage. About October they spin small cocoons upon the twigs where they pass the winter, and come out in the early spring and attack the buds. They prefer flower buds, and for this reason one insect can do a vast amount of damage. The remedy is to spray early in the spring, before the flowers open, with Paris green in the same proportions as for the codling moth—one pound to two hundred gallons of water.

The cow knows her place in the stable and takes it. She also knows when it is her turn to be milked, and if disappointed gives less milk and of inferior quality.

We take the following from Hoard's Dairyman:—"The mischief of it is that Democratic and Republican farmers will blindly follow their party leaders even to the destruction of their own business." But we in this enlightened Dominion of Canada never do such things. Oh! no.

An evidence of the success which has attended the efforts of the Travelling Dairy, conducted in Ontario for the past two years, is the fact that Conservatives and Reformers are both trying to claim the honor of having been the first to have proposed this method of increasing the interest in dairy husbandry.

The season of the year has come around when dairy cows should have extra care, if they are to do their best for their owners during the coming months. Unless cows are brought out in good condition and prepared beforehand for a good summer's work, they cannot give the same returns as if they had started in proper condition.

A farmer in France claims to have discovered a remedy for rust on wheat, which is simple and at the same time effective. In the experiments reported, wheat which had been sown in the fall was sprayed in the spring with a mixture of 4½ lbs. of sulphate of copper and 6½ lbs. of sulphate of soda, dissolved in water. This treatment gave an increase of fourteen bushels over wheat not so treated. It would be interesting to know what results spraying with the Bordeaux mixture would give.

Orchards pay well for all manure applied to them. The paler green of the leaves on bearing trees, as compared with those not so heavily laden, shows the tax on the tree's vitality which fruit production causes. Fall and the early spring are the times to manure orchards. In addition to stable manure, bearing trees should have some potash applied. Do not sell or waste ashes, but save them and spread around the apple trees. Remember, that average wood ashes contain from five and a-half to seven per cent. of potash.

A. D. Harkness, Irena, Ont., in an exchange, says:—"Anyone who can run a fanning-mill can run a separator, and it is pure shiftlessness to spill milk so that it will get in the machinery. I have never found more than 0.15 per cent. of fat in the skim-milk, and that was when I was letting the milk in too fast. I think that if a person is getting more than fifty pounds of milk per day during the months of October and November, that a separator will make enough more butter to pay the interest on the cost of it."

Thirty-one of the students who have attended the first session of the dairy school which has been established in connection with the Ontario Agricultural College, Guelph, remained the full time, and passed the final examinations. This is a good showing, when we consider that out of the number attending a large proportion are old butter-makers who could not spare the time from their business to finish the course, and so had to leave before they had a chance to write on their examination. We are pleased to notice that two young ladies were well up among the first half dozen.

In the planting of trees, vines and cuttings, especially in dry weather, care should be taken to press the earth firmly about them. To a great extent poor results and losses of plants arise from neglect of this important point. The planting of a tree seems a very simple matter, yet the inexperienced will often make great blunders. The hole should always be made much larger than the roots require; the earth should be carefully sifted back among the roots, and when filled it should be pressed down firmly, so as to leave no spaces around the fibrous roots. This will help protect the plant from drought by preventing too free access of air, and by being firm no obstruction is offered to the upward movement of the subsoil water. Great care must be taken to keep the roots moist, and not allow the little hair-like fibres to dry and wither, for if this happens it is sure death to an evergreen, and any tree will be stunted and not make a good growth, no matter how much care is taken in the planting. How often do we see farmers going home from town with a dozen trees strapped on behind the buggy with the roots exposed to the burning rays of the sun. No one could expect trees after such treatment to live. So don't blame the nurseryman for your own neglect.

Even if Prof. Koch's lymph has not been as successful as was hoped it would be in the case of consumption, still it has been shown by experiments conducted at the Pennsylvania Experiment Station that it will indirectly, to a large extent, prevent the spread of this dread disease. It has long been an acknowledged fact that the use of the flesh or milk for food of animals suffering from tuberculosis was a very fruitful cause of consumption in man. In the experiment quoted it was shown that the lymph is a sure test in detecting the disease in its incipient stages long before its presence could be found out by experts in the ordinary physical examination. The use of this test will doubtless be of great value in stamping out the disease in its early stages.

Can the per cent. of fat in milk be increased by good feeding? Nearly all the most carefully conducted experiments have shown that the proportion of fat cannot be increased by feed. Prof. Cook, of Vermont, disputes these statements, and now the Colorado Station sides with him. Doubtless much will depend whether the cow is up to her normal standard of fat production, and also how she has been fed and cared for previous to the test. But the average farmer can well afford to let the experimental stations settle this interesting problem, for he knows all that is absolutely necessary for him to improve his herds, which is that some cows will give twice as much butterfat as others on the same feed, and also that plenty of good feed always gives a paying increase in the amount of butter produced. Therefore, weed out your poor cows and feed the remainder well, if you would succeed in dairying.

The spraying of fruit trees with Paris green has now become so general that no one ever thinks of danger when eating fruit, still we often hear statements made that injurious effects have followed the use of grapes which have been sprayed with the Bordeaux mixture. To show that there are no grounds for these stories we give the following experiment:—"The Board of Health of New York city condemned several carloads of grapes as dangerous to the public health, and ordered them to be destroyed because they were slightly disfigured with the Bordeaux mixture. This caused a 'scare' and a serious fall in prices, so that the market was bad for the rest of the season. To determine the exact amount of copper adhering to such grapes, the Massachusetts station, at Amherst, analyzed ten pounds of grapes which were badly disfigured from spraying with this solution. Only two one-thousandths of one per cent. of oxide of copper was found in the ten pounds. A person would have to eat from one-half ton to one ton of such grapes at one time, skins, stems and all, before he would have taken into his system sufficient poison to do any injury."

Sheep-shearing time will soon be here again. Do you wash your sheep? It is a disputed point whether it pays to do so, but much will depend upon circumstances. A farmer was met last fall who was very wroth at the FARMER'S ADVOCATE because it had advised shearing sheep without washing, and the gentleman in question had lost by following this advice: but, when inquiries were made, it was found that he had been docked for too much by the local dealer. Always find out how much is taken off in your market. The usual practice is to deduct one-third, in other places one-half is taken, which would make a very material difference to the farmer. Each man will have to decide this matter for himself. If his wool is very clean, doubtless it would pay him better to wash rather than give such a large proportion of it to the dealer; also, if the facilities for washing are very convenient it may pay to wash. Among the many disadvantages of washing are the following: Much time is lost in driving the sheep to a suitable place, and in the building of pens. When washed it is necessary to delay shearing late enough in the season for the weather to be mild, so that the water will be sufficiently warmed, but often before this time comes the sheep will have lost far more wool on fences and gates than can be gained by washing, so that in such a case washing is labor in vain. There is also great danger that valuable sheep may be chilled, and sometimes loss will follow. This last-mentioned reason applies with additional force to the farmer and his help, for many fatal diseases have been caused by being chilled by being in the water such a length of time as is necessary. If washed the sheep should be turned into a clean pasture for a week or ten days to allow of the return of the natural yolk. This process can be hastened by feeding a few peas or a little corn.



**Tariff Reform.**

The Trade and Labor Council of the City of Toronto met recently. The meeting was well attended by delegates from the various labor unions of the city. The subject which had been appointed for the special consideration of the meeting was taken up. This was a resolution and amendment to it, both of them submitted at the last meeting of the Trades' Congress and not then voted on, but forwarded to the labor organizations of Canada for consideration and action, so as to enable their delegates at the next annual congress to vote in accordance with the expressed desire of their constituents in the event of such a resolution being offered. The resolution and amendment were as follows:—

Moved (at the Trades' Congress) by Mr. Jury, seconded by Mr. Carey:—

"With respect to the rights of labor we affirm the following:—

"The earth, with its lands, forests, mines and other natural opportunities, is the gift of nature, not to a part but to the whole of humanity. While they have an unquestionable right to charge for the crops they raise, the houses they build, the services they render, we denounce as utterly unjust that any man should be allowed to charge for the land and other natural gifts that he never made. The value that accrues to land from the presence and concentration of population should not go to the enrichment of speculators and collectors of ground rents, but should be applied to public purposes.

"To impose taxes on improvements is to discourage the beneficent use of capital in the employment of labor and enrichment of the country, while encouraging its use injuriously in speculation and monopoly. Therefore, be it resolved, that we urge the Provincial Government to grant municipalities the power to remove all taxes from the products of industry."

Moved in amendment by Mr. Hastings, seconded by Mr. March:—

"That the following words be added after the word industry: 'And be it resolved further, that we urge upon the Dominion Government the removal of all duties and imposts levied on the products of industry, either imported or manufactured in the country, except such as are levied with a view to restricting the use and consumption of any article or product held to be injurious; and the substitution therefor, as a means of raising the revenue required for the government of the country, of a single tax on land and natural opportunities.'"

The amendment and the resolution carried unanimously amid much applause. The discussion was very full and intelligently conducted. It was noticeable that among those taking the largest share in the speaking were old members of the council, and men who but a few years ago were strong and uncompromising supporters of the National Policy. Now those gentlemen, one and all, spoke in favor of the removal of all duties and imposts levied on the products of industry, either imported or manufactured, except such as are levied with a view to restricting the use and consumption of any article or product held to be injurious.

Our present tariff was formulated to benefit the very men who are now voting for its abolition; farmers willingly taxed themselves that cities and towns be built up, thus providing a home market for their produce. As far as increasing the population is concerned the experiment has been a failure. True cities like Toronto have grown, but this growth has been made by draining the surrounding country. Farmers' sons and daughters, and their male and female servants, have been drawn towards and swallowed up by these centres. Thus the population of the country towns and villages and municipalities have steadily decreased—to such an extent in many districts that it is difficult to obtain sufficient help to properly till the land. While the price of farm produce has decreased, the cost of farm labor has increased. What Canada most needs to-day is a denser country population.

**What to Feed Cows, and How Often?**

We extend an invitation to dairy farmers in all parts of Canada to send us concise, practical letters, giving the results of their past year's experience in feeding dairy cows.

1st.—In winter feeding, what have you found the best foods, quantity and quality of milk and economy of production considered?

2nd.—With what do you supplement pasture in summer and fall feeding?

3rd.—In winter, do you feed twice or oftener per day, and why? Give particulars of your method.

A prize of \$5 will be given for the best article embracing answers to the above questions. Other articles used will be paid for at our regular rates. Write on one side of the paper only, and bear in mind that the merit of an article or essay does not depend on its length, but on its practical ideas and the clearness with which they are stated. Essays to reach this office not later than July 1st.

**Economical Building.**

The request in the *ADVOCATE* for articles on the building of concrete walls brought in a dozen and a-half of essays, nearly all well written, and as a rule practical. There is no doubt but that an immense saving can be effected by its use in building, especially where lumber is scarce and dear, or regular mason work with brick or stone expensive. Attention has not been sufficiently called to its merits heretofore, hence the space we devote to it. Not only is it useful for walls, but for cellar, milk-room and stable floors, though in the latter case Portland cement should be used (mixed one part to four and a-half or five with good sharp sand; a little gravel will not hurt, though the surface must be perfectly smooth). Among so many good essays it was difficult to select, but we give what seems to cover the subject best. Some of the writers give excellent points not touched upon by others. For example, Mr. Alex. T. Thomson, of Douglas, Man., says the inside of the boxings should be planed, and clamps and wedges used about midway to prevent them from springing. Lack of time to have sketches which Mr. Thomson sent engraved prevents their use, and they are essential to his article. Several suggest screw bolts to hold boxing firm. Mr. R. A. McLennan, of Minniska, Man., gives us a pithy paper, in which he differs from most others in favoring a scantling framework bedded in the concrete wall. On top of foundation he beds a plank in mortar and sets on it 2x4-inch scantling flush with outside of plank, the two-inch side out. He sets them four feet apart, and braces them all round with 2x4 stuff (as girts) below windows and above windows and doors. Inside he puts up another set of scantlings midway between the outer ones, spiking them to the girts. The roof may be put on before the walls are done. The uprights will save putting in "bond" timber. The boxing boards he nails to this frame, not driving the nails quite home. For hoisting the concrete he uses a rope about three times as long as the building is high, run over a pulley as high as top of wall, fastening snaps or hooks to rope so that when one bucket is at the ground the other will be at the height required.

Mr. Wm. Rendell, of Camperdown, Ont., says when the wall is within ten inches of the top small blocks of scantling should be bedded in every three feet at the outside to nail the cornice to. Several writers recommend plastering the outside, coloring the plaster with lamp black and marking off in squares to imitate stonework. If plastered with lime, Mr. W. R. Riddington, of Foxwarren, Man., suggests a wash—three-fourths pound of mottled soap to one gallon water—applied boiling with brush (not to be frothed). Leave twenty-four hours; then mix one-half pound alum with four gallons water, dissolved for twelve hours, applying as before in hot weather.

"Canadian," writing from British Columbia, recommends as the proper proportion for concrete materials:—One measure lime, two measures good, clean, sharp building sand, and four measures clean gravel, in size from a pigeon's to a hen's egg. In building, to this may be added, he says, eight measures of broken stone.

To prevent rain from beating in, it is thought better by some that the window and door sills should project an inch or so outside the walls. The excavation for cellar or foundation walls should be below the frost line. Builders generally do not favor mixing Portland cement with common lime. There are cheaper "Canadian" cements on the market, but they have not the strength of "Portland," which is an Old Country cement.

One of the most important points in the whole process is to mix materials thoroughly. In making a cement floor, the cement and sand should invariably be mixed dry first, keeping up the stirring process with hoes or shovels as the water is applied by degrees till a mortar (not too soft) is made. Cobblestones may be used in the bottom, but there should be laid at least three inches of the cement mixture above them.

Do not hesitate to try concrete building. Try it this season.

It will be of interest to Canadian breeders to know that the efforts which have been made to induce the Exposition authorities to extend the time for the entry of horses and cattle from the United States and Canada from the 15th of June until the 15th of July has proved successful. The time for the entry of sheep has also been changed from July 15th to August 1st. The present rules, which require that animals should be owned at least 60 days before the date of application, will most likely be modified so that the time will be changed to 30 days previous to the closing of entries.

**Potatoes.**

A light, rich soil, moist but not wet, and a moderately cool climate are the most favorable conditions for the successful growth of the potato. We find all the above conditions in the natural home of the plant, which is half way up the slopes of the Andes. The nearer that we approach these natural conditions by artificial means, such as draining, plowing and cultivation, the better success we may expect. Potatoes may be grown with profit on almost any soil, but they do not do well on heavy, wet clays. Perhaps the heaviest crop can be grown where considerable vegetable or alluvial deposits are found, but still the finest quality, if not the heaviest yield, is produced on dry, sandy loam. A sod will give good results. The preparation of the land largely governs the yield and quality. Apply, if possible, plenty of manure, either in fall or spring as may be most convenient. If applied in the fall plow under lightly, cultivate and plow deeply again before winter, and again as early in the spring as possible cultivate thoroughly. Sow the early varieties about this time; for the later varieties cultivate again after you are through with the other roots. Plant either in hills or drills—other things being equal, the yield will be much the same in either case, but though some very successful potato growers prefer to plant in hills the majority plant in drills. Planting and harvesting can be more easily effected, for horse labor will largely take the place of hand work, and therefore less work is required. Plant with a light furrow; try to cover about two or three inches deep. A common and very successful way is to plow the ground lightly, planting in every third furrow.

In order to obtain the best results good seed must be chosen, cut directly through the centre, and if large split again. If the potatoes are of moderate size split in half lengthwise. Some experimenters say it is better to throw away the seed end, because this part produces small potatoes. Thirty inches apart in rows is a good distance for the smaller varieties, and thirty-three to thirty-five for the larger, dropping from twelve or fifteen inches apart in the rows, harrow the ground as the potatoes are coming through. It is wise to repeat this once or twice. Start the horse hoe as soon as the plants are all above ground, and continue until in full bloom. Shallow, flat cultivation gives the best results, except in very heavy or wet soils.

What is known as the Bordeaux mixture is being used with good success in combating the potato blight. At a recent agricultural meeting in England members reported satisfactory results from the use of that mixture; the Irish land commission also reports great success with their experiments in the same line, while most of the experimental stations on this continent, as well as prominent growers, have reported in its favor. When the plants are a foot high or less spray with the mixture made as follows:—Dissolve six pounds of copper sulphate in sixteen gallons of water, slack four pounds of fresh lime in six gallons of water. When cool mix, strain through a coarse piece of sacking. By the addition of two ounces of Paris green the potato bug can be destroyed at the same time. Potatoes should be sprayed at intervals of about two weeks. This is the standard Bordeaux mixture, but Prof. Fletcher recommends the above diluted to forty-five gallons with water. If this is done, add sufficient Paris green to still keep up the original proportion of one ounce to eleven gallons of water.

Never plant potatoes in a field where the crop was formerly affected by either the rot or the scab, for there will be a sufficient number of spores left in the ground to spread the disease for several years. The corrosive sublimate treatment for scab is reported by the experimental stations, and also by well-known potato growers, to have given reliable and satisfactory results. It is as follows: Dip seed potatoes in a solution of two ounces corrosive sublimate and fifteen gallons of water.

The Beauty of Hebron, White Elephant, Burbanks, Rural No. 2., Summit and Empire State are the varieties which have given the most general satisfaction over the country. The last named variety is third among forty-eight sorts experimented at the Experimental Farm, Ottawa, while it and the Summit occupy first and second places respectively, both for best average crop for three years at the Ontario Experimental Farm, and also the same relation on the list in the co-operative test conducted by the Experimental Union in all parts of the province of Ontario. The Everett, which heads the list at the Ottawa Experimental Farm, is mentioned by one experimenter, from Durham county, in the co-operative work as being the best of the lot, which shows the influence of climate, soil, etc., on crops.



**Melon Growing.**

Melons can be grown with little more expense and as easily as a crop of corn or potatoes. Any good garden soil will answer, but the best results will be obtained on a good, rich and warm sandy loam, with a southwestern exposure. A clover sod will make a good seed bed. The ground should be plowed in the fall, and about twenty loads of manure per acre plowed in the fall or spring in addition to the special manuring in the hill. The ground should then be thoroughly cultivated and narrowed, and furrowed out six feet each way for musk and eight feet for water melons. A shovelful of well-rotted manure should be well mixed with the soil of each hill; for this purpose there is none better than poultry manure. One grower says, "That each barrel of hen manure used added \$10 per acre to the value of the crop." The hills should only be raised about two inches, made quite flat on the top; plant about six or eight seeds to the hill. A good method of protecting the plants from the cut-worm is by placing round them a thick rim of paper about three inches high and a foot in diameter, over which they cannot climb. The main thing is to push the plants forward by thorough cultivation and the application of special fertilizers until the vine begins to run. Pinch off the terminal branches, so as to allow the lateral ones to grow. This is one of the secrets on which melon culture rests, for the main branch bears male or barren flowers, while the laterals bear the female or fertile blossoms. The chief pests are lice and the striped beetle; the best remedy is tobacco dust or stems strewn round the plants, or an application of strong tobacco water. Another good remedy for the striped bug is to moisten land plaster with coal oil and scatter a handful on each hill; also Paris green, one-fourth the strength used on potatoes.

In marketing, do not allow the fruit to remain on the vines until ripe; gather as soon as they will part from the stem. A melon ripened in a room is much better flavored than if allowed to ripen naturally. They mature so rapidly that it is necessary to pick every day. It will pay better to start them in frames, so that they can be got into the early market, as the following account of the system pursued by Mr. R. Brodie, St. Henry, Montreal, will show: "I have tried nearly all the varieties which have been boomed by seedsmen, but nothing comes near the Montreal melon for forcing under glass, either in quality, size, or yield. I make a hot-bed a little warmer than for cabbage; used three-inch pots buried in the soil as close together as possible (inverted sods or strawberry boxes will do as well); sow five seeds in each pot. The first week of May make trenches fifteen inches deep and two feet broad; fill these with hot manure, covering with eight inches of soil. I move the hot-beds off the cabbage and celery plants and place them on these, the trenches being twelve feet apart; plant one pot containing four plants under each sash, removing from the pot and shading for a few days. A handful of some special-fertilizer will increase the growth and yield very much. Be careful to give the plants air each day. The first of July harden them off by removing the frames. The first on the market will usually bring \$12 per dozen. When nearly ripe, place a board or shingle under each melon to prevent the worms eating into and causing them to rot."

**Asparagus.**

Every farmer should grow sufficient asparagus to supply his own table, as it comes in at the time when there is little else in the way of vegetables to be had. It is a perennial, so that when once planted it may be grown on the same ground without renewal for twenty years. It does well on almost any kind of soil, but better success will be obtained by planting on dry, warm, deep and rather sandy land. The plant may be raised from seed sown in drills one foot apart, in which case they will be fit to transplant into permanent beds the following spring, but a better plan where only a little is required for the use of the family is to purchase the roots from some gardener; while this may cost a little more, still a whole year is saved. In preparing the soil apply well-rotted manure, plow and cultivate thoroughly, then plow furrows twelve inches deep and from two to three feet apart, in the bottom of these put a quantity of well-rotted manure, cover this with two or three inches of earth; on this place the plants, spreading the roots well out; plant so that the crown will be six inches below the level of the surrounding surface. Plant nine inches apart, cover with two or three inches of soil; when the sprouts show through draw the rest of the soil round them until level. From the peculiar succulent nature of the roots this plant is less susceptible to injury from late planting than most other vegetables. Nothing should be cut from the plant the first year, but after the third year a full crop should be obtained. Manure and cultivate round the plants thoroughly each year, and apply one-half pound of salt to the square yard. The shoots may be cut for several weeks each spring, but as soon as they show signs of weakness cutting should be discontinued. In the colder sections it is advisable to cover the bed each fall with a layer of coarse manure or straw, this to be removed in the spring. Though an entirely hardy plant, it will start earlier in the spring if the roots have not been subjected to severe freezing. The asparagus beetle has injured this crop in some sections, but is scarcely known in others; if troublesome, it can be kept under by applying Paris green in the same proportions as for the potato beetle.

**Cabbage and Cauliflower.**

The cabbage plant is much easier managed than the cauliflower, and is therefore more sure of giving a crop, even under unfavorable conditions. The first consideration is to get the right kind of soil; the best is a deep, rich, sandy loam. They will do well on stiff clay ground.

The land should be drained either naturally or artificially. It should be plowed in the fall, and plenty of well-rotted manure applied; the ground should then be thoroughly worked and pulverized. The seeds can be sown in frames, in boxes in the house, or even in the open air; but, if only a few are wanted for the farmer and his family, it will pay just as well to procure the plants from some gardener who makes a business of this line of work. The cabbage is one of the hardiest vegetables, and where it is wanted for an early crop the young plants should be set out as early in the spring as the ground can be worked. As soon as wheat or oats can be sown cabbage may be safely planted in the open field. After setting out, the plants should be thoroughly cultivated; if they have been planted in rows two or two and a-half feet apart, the horse hoe will, to a great extent, take the place of hand labor. Cultivation should begin about ten days after they are set out. There is special need for this working of the soil if the weather happens to be dry. The most troublesome insect is the cabbage caterpillar, which often attacks the plants just as they begin to head out. This is the larva of a small, light, yellow butterfly, which deposits its eggs on the plants in May or June. The caterpillar can be destroyed by dusting white hellabore on the cabbage, but this cannot be done with safety when the plants are nearly ready for use, as it is to a certain extent poisonous; though, if used when the cabbage is about half-grown, the rains will have washed it off sufficiently by the time they are ready for use. What has been advised for cabbage is the culture necessary for cauliflowers, with the exception that this vegetable being of a more delicate constitution it requires to be more carefully handled, and cannot be set out quite as early in the spring; but still the plants must be planted before the dry, warm weather begins or it will not do well. The cauliflower delights in a cool atmosphere, and does not give as good a yield in a dry season.

**New Fruits—Worthless or Otherwise.**

About this time of year fruit tree agents will be travelling over the country selling all kinds of fruits. They can supply any variety which the farmers may wish, but will take good care that they do not come back for a recommendation when the tree comes into bearing. In view of the numberless frauds which have been practised, it seems hardly necessary to give the advice: Never give an order to any agent who is not known, and not even then, unless the house which he represents is known to be reliable. It is always wiser to deal with those who have a reputation to keep up, and who are not too far away. Poor stock is always sent as far away from the nursery as possible. Plant standard varieties; let some one else do the experimenting with the new, high-priced, money-making varieties; if they prove to be of any value they will soon be heard from through the agricultural press and the reports of the Fruit Growers' Association. That our readers may not be deceived by sharpers, from time to time we will give descriptions of worthless as well as valuable fruits, grains, etc. The following extracts from a report of tests of four new types of fruits, conducted by Prof. Bailey at the Cornell University Experimental Station, will be found interesting, and our readers will know how much confidence to put in the descriptions of the same in the agents' hand-books: The first, *Prunus Simonii* (Simon or Apricot) plum, is not a hybrid between the apricot and the plum, but a distinct species, supposed to be a native of China, and though a very attractive fruit, it has not given satisfaction, for the Professor says: "I have never tried a specimen which I could say was edible. I make this unwilling confession because the fruit is exceedingly attractive to look upon. It is said that the bitterness passes away in the cooking, but my experience has not been reassuring." He then adds: "After some years of study of this fruit, I am forced to conclude that it is worthless for orchard cultivation in the latitude of New York, but as an ornamental tree it has distinct merit." The Wineberry—Prof. G. C. Georgeson sent seeds of this raspberry from Japan, where it grows wild. The United States Pomologist report says of this plant: "More ornamental than useful." Prof. Bailey says that it has received considerable notice in England, but always for ornament, never for fruit, and concludes with:

"I find no fruit with any commercial value in our wineberry plants. I am nevertheless ready to believe that the species may eventually give us fruit of considerable value, but for the present I should class it among the ornamentals rather than the fruits." The Crandall Currant—This new variety was originally found growing in Kansas, and undoubtedly gives great promise as the parent of a new and valuable race of small fruits. The Crandall, however, is too variable to be reliable, as only a dozen plants, or less than one-fourth of the whole number, could be called profitable. There is every reason to believe that if cuttings were taken from these plants alone, the Crandall would soon rise in popular estimation. To some the flavor is disagreeable, but on the whole it could be recommended as a good fruit for home consumption. It has so far been free from attacks of the currant worm. The Dwarf Juneberry, the Success—The variety tested was also found in Kansas, though different kinds are found growing wild over the Northern States. The Cornell Station obtained two hundred plants in the spring of 1888, and they have since given three good crops. This berry closely resembles the huckleberry in flavor and appearance, but is more juicy and palatable. The plants are exceedingly hardy. Prof. Alwood says of this berry: "I venture to predict that it will become very popular, and fill a long felt need for a first-class small fruit ripening just at the close of the strawberry season." The robins seem to be very fond of this berry, for he adds: "The birds bear me out in the statement that the Juneberries are good. We are not yet ready to report upon other cultivated varieties, but the Success is an acquisition if the birds can be induced to avoid it."

**The Fleece.**

Mr. John Hallam, of 83 and 85 Front St., Toronto, Ont., and 87 Princess St., Winnipeg, Man., desires farmers to write him, giving answers to the following questions:—How has your flock wintered? What is the condition of the wool as compared with last season's clip? How many sheep and lambs have you this year? Of what breed are they? Before shearing, be sure and clip off all dung locks and remove all straws and burrs from the fleece, also all stained wool. Do not wrap up any of this refuse in the fleeces. This is frequently done, and has tended not a little to permanently reduce the price of Canadian wool. It pays to send all farm produce to market in first-class condition. This age demands that all goods be put on the market in the most attractive manner, and that the quality be as good as possible.

The place where the shearing is done should be free from straw, hay, dead grass and seeds, as these injure the wool and make it of less value.

The wool should be carefully press-packed, so that not less than 20,000 lbs. can be put in a car. This will insure the lowest possible rate of freight, as the C. P. R. charge as much for 10,000 lbs. of loosely packed as they charge for 20,000 lbs. of press-packed.

All packages should be of one quality. Mr. Hallam advises that they be sorted as follows:—

1. The fleeces of males, of those from the different pure breeds, such as Leicester, Cotswold, Shropshire, Southdown and Cheviots, should be put in separate packages.
2. All ewe wool and short wool of the Montana type.
3. All cross-breeds between coarse and wool of the Montana type.
4. Lambs or yearlings.
5. Dead wool, or wool that has been taken off sheep after they are dead.
6. The fleeces should be tied up with smooth, fine twine, and on no account should binder or loose-spun twine be used.
7. It is of the utmost importance that the wool should be tied up in separate fleeces and a record kept of the number of fleeces of each kind.

Those of our readers who have wool to sell should answer Mr. Hallam's questions and be guided by his advice, send him samples of their wool and ask him for offers for same. He should be able to pay better prices than country dealers, as he is a very large operator. When you write him, mention the FARMER'S ADVOCATE.

Put a few odd moments on the lawn. Why is it that, with every advantage, there are so few lawns in the country as compared with the cities? It may be that time will not permit of a thorough preparation of the ground, but at least a few sods can be put in places where the grass is lacking, and the brush and limbs can be cut out and burned.

We have been informed that the English Shropshire Sheep Breeders will not withdraw their special prizes offered at the World's Fair because the rules of the Exhibition forbid the coloring of the wool.

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**THE FARMER'S ADVOCATE & HOME MAGAZINE**

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

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**Fresh Fraudulent Transactions.**

A new crop of sharks make their appearance regularly with the return of vegetation. This year these are operating in western counties under the guise of a company claiming to supply farmers with groceries and other goods at unprecedentedly low figures. They are also getting in their work among livery men and hotel keepers. After stipulating to supply goods cheaper than the trade can furnish, the contract is produced that the intended dupe is asked to sign, and which later on is found to be a note payable at short date, formed by tearing off part of the contract form. The moral is plain. Deal with none but responsible parties, and leave the slicked-tongued gentry severely alone.

**STOCK.**

**To What Extent Can We in this Country Follow the English Methods of Sheep Husbandry with Profit?**

[Read by Mr. John Jackson, Abingdon, Ont., before the last meeting of the Dominion Sheep Breeders' Association.]  
Sheep farmers in England do not all follow the same methods of care and management of their flocks. In some sections where they have shaded permanent pastures the sheep are allowed to roam at large for a portion of the season. In other parts of the country they are folded in hurdles summer and winter. In some cases they are folded on grass land, and moved every day; in others they are kept in folds, the grass being cut and fed in racks—in this they are moved at regular intervals, so that in either case by this system the land is regularly and evenly manured. And again, in other cases the land is sown with vitches; the sheep are then folded on this land, the vitches being cut forward of the fold and also fed in racks.

Another thing the flock masters are very particular about is to use nothing but a first-class ram, even in the flocks that are only kept for wool and mutton. They attend the ram sales and buy the best they can get. I know of a breeder that sold last year at the Cirencester Ram Sale forty rams that brought enough money to pay the rent on a good farm of 800 acres, and the most of these rams would be bought for crossing. But to determine just how far we can follow the English practice of management in our flocks, we must first consider the different circumstances in which we are placed, our hotter climate in summer, the more intense cold in winter, the smallness of our flocks, cost of labor, the value of the product, etc. Yet in many ways, to a certain extent at least, we would do well to follow their example in the care and management of their flocks. And, while the hot sun and severe frost may be against us to some extent, our climate as a whole is ahead of the English climate for the health and growth of sheep.

In the first place we would do well to pattern after them in the selection of better rams. We now have well-established flocks of all the leading English breeds to supply rams, and which can be purchased at reasonable figures, but too many of the best of these find a market in the United States. It will pay every breeder, even if his flock is small, to use nothing but a good pure-bred sire of some one of the established breeds. He should settle on the type of sheep that suits his fancy, and at once aim to produce it, and with proper care the result will be as has been in England; and whether that fancy be for a long or short wool, a white or black face, I would repeat what has been so often said—to keep some one particular breed year after year, always selecting the best to breed from, and the result will be practically a pure-bred stock, notwithstanding the "whims" of those who talk about trouble after the first cross, and a flock running out if kept on the same farm too long. These are theories that have long ago exploded. Another English practice that would be profitable to follow is to castrate all the ram lambs in a mutton flock at an early age. There is a great loss in this country by neglecting this; it is not only when sold to the butcher, but too often some of these cross-bred lambs find their way into other flocks, are used to breed from, and thus cause still greater and almost irreparable loss.

If it would not pay us to fold our sheep on grass in our hot summer weather, it would pay to put more on our pasture, and supplement the pasture by sowing vitches, which are a most excellent food for sheep. This could be fed off by folding the sheep on the land, cutting and feeding in racks the same as in England—by putting them on in the evening, allowing them to remain till morning, then to run in some shady place with a supply of water for the rest of the day. A separate fold with a "lamb creep" would be a good way to push the lambs forward for the butcher or the show ring. These vitches, if sown early, would be ready to cut about the 1st of July, a time when pasturage is often dry and scarce, and if well manured this land would make a good preparation for wheat, or for turnips or rape to be again fed off in the fall. By sowing the vitches at different times, as they do in England, they can be used for a much longer time, and when this is done have a good piece of corn ready. In this plant we have quite the advantage of the English flock master. I need not tell you what a large quantity of this can be grown on a small plot of land. There is nothing they can grow in England that will at all approach a good crop of corn. It is also a most excellent food for sheep and lambs, especially when run through a cutting box; it is very easily cut even with a hand box, and when quite green enough can be taken in at a time to last a week by standing it on end to keep from heating. But it must all be cut before frost, and be allowed to partially cure, and then put inside on end; will make the best of feed for sheep right up till winter sets in.

Again, if we cannot feed our roots on the land as they do in England in the winter season, we can grow them (and should grow more of them) and feed them inside, where I believe they will do the sheep more good than if fed on the land as they are in England; for even there they are often more or less frozen, at other times in mud to the knees. Another thing I have noticed when travelling through England, that is temporary buildings at the corners of two or more fields for shade and shelter. This in many cases would pay in this

country. Then there is the dipping to destroy ticks. This is regularly attended to in England, and it would pay every owner of sheep in this country to follow their example. Some neglect this, but I hope not any members of the Sheep Breeders' Association.

Now, while it may not be practical to follow all the usages of English flock masters, by applying what we can to advantage I believe we can increase our flocks fifty-five per cent. in number, and as much in quality. Another method which the English breeders have of improving their flocks that has been very little practised in this country, that is the letting of rams—the same thing could be done here with good results.

Many breeders of the very best animals who follow the shows will not sell their best rams, but might be induced to hire them for the season, and it would pay the breeder of a pure-bred flock at least to give the same price for one season's use of a really first-class ram that would buy a second-rate one out and out, and the cost of shipping a sheep to and from in this country is considerably less than it is in England.

We have heard a good deal about the different breeds of sheep being only adapted to certain localities in England, and that each of these will yet find their natural element in certain localities in this country. I must confess I don't take much stock in this theory, although there may be some force in it. The fact of the case is, England does not fully bear this out. Right at Cirencester, the very home of the Cotswolds, we find a very large flock of Southdowns doing well. In Oxfordshire, the home of the Oxfords, you will find a noted flock of Oxfords on one farm and Cotswolds on the adjoining one, and a few minutes drive from there will take you to one of the leading and oldest flocks of Southdowns in the kingdom. In Cambridgeshire you will find the most celebrated flocks of Southdowns, Hampshires and Shropshires. In Norfolk, right among the black faces, you can find a very noted flock of Cotswolds. The same may be said of almost every county in England. It is true, as far as practice goes, there are a few exceptions. In Essex they are principally Southdowns, Lincolns in Lincolnshire, and Shropshires in Shropshire. However there is a great advantage in having each breed located together. The more of any one kind found in a certain locality the more that section will attract buyers; even if it be but a uniform flock of grade sheep all of similar type, butchers, drovers and shippers would pay more for them. An even lot of anything will always command full value in the market.

**Our Scottish Letter.**

Since last writing, we fear rather too long ago for duty to the FARMER'S ADVOCATE, about four weeks have elapsed, and on the whole fairly eventful weeks they have been. We had at that time just got over the Glasgow Stallion Show, and were in a buoyant mood because of the singular success which had attended that event. During the succeeding weeks there was keen competition going on amongst our plowmen in the country matches, and the healthful exercises of these events were being canvassed by every well-wisher of the rural life. A successful seed, roots and horse show was held at Aberdeen on the 17th March, when the dwellers amongst the granite again asserted themselves and showed good farm produce in various departments.

The first prize aged stallion was deservedly Mr. Alexander MacRobbie's fine blocky horse, Prince William, which stood well into the prize list at the Glasgow show. Mr. George Bean's second horse, Garloch, is also a useful horse, with a good deal of style and quality. Mr. David Walker's grand big horse, Fitzgallant, a son of Prince Gallant, and a grandson of Topgallant, was first in the three-year-old class. This horse would be much fancied by Canadian buyers, and still more popular with them would be the fine, short-legged, deep-ribbed horse, McCamon Erskine, bred by Mr. George Shepherd, Shethrie, Tarves, and carrying his pedigree in his name. He was second. A capital horse, owned by Mr. Robert Copeland, Milton Ardlethan, Ellon, was first in the two-year-old class. He was bred by Mr. Lunsden, of Balmedie, and was got by his fine horse Balmedie Prince, out of the handsome, well-bred prize mare Mermaid, by Lord Erskine. Mr. George Bean's second horse in this class, Lord Rosslyn, is a fine, thick-bodied horse, got by Darnley's Hero, out of the beautiful prize mare Queen of the Lyons. The yearling colts were a thoroughly good lot, and the first and second prize winners are not easily surpassed. The noted breeder, Mr. John Marr, Cairnbrogie, was first with Cairnbrogie Prince, a capital colt, got by Prince of Albion, out of Darling VI., by Lord Erskine. Very little if anything behind him in merit was Mr. William Robertson's really splendid youngster, got by Royalist, out of the Macgregor mare Betsinda, and bred by himself. This colt will be further heard of. He was purchased by Mr. Walter S. Park, Hatton, Bishopston, and at a highly respectable figure, and had plenty of admirers. Amongst the fillies there were several excellent specimens exhibited. The two-year-old Golden Mary is owned by the Messrs. Cocker, and was got by Royalist. She is a really good beast, and wants no puffing to make her popular. Mr. Marr showed two excellent fillies, got by Handsome Prince, whose dams were of the famous Darling tribe; one of them was first, and the other fourth. Mr. Lunsden pressed the first pretty hard with a good filly named My Lady, bred by himself, and got by Mains of Aries, own



brother to Handsome Prince. An examination of the breeding of the prize-winning horses at the Glasgow Stallion Show makes it clear that the influence of the Darnley-Prince of Wales cross is still potent, and of actual prizes won the horses whose stock took the largest share were Prince of Wales, Sir Everard, and Prince of Kyle. Since then we have had the first open show of the season at Castle Douglas, and both champion Clydesdales, Montrave Dudley and Queen of the Roses, were bred at Montrave by Mr. Gilmour, and got by Prince of Kyle's own brother, the £3,000 horse Prince of Albion. What astonishes most people in connection with these animals is their great weight and size, showing clearly that these Craigie horses are not likely to justify the forebodings of those who thought them too slight and lacking in substance. Their produce, when properly mated, are in no sense ponies.

The spring shows and sales of young bulls are in full swing, and good prices have been obtained for anything worth looking after. At the Castle Douglas sale of Galloways on Monday, 20th March, there was abundant evidence that the border blackskins have again bounded into popular favor, and are again rising in value. Mr. Cunningham, Tarbreoch, was as usual one of the most successful exhibitors, and sold two two-year-olds for £30 and £25, respectively, to new breeders of Galloway cattle. The average price of six two-year-olds was £23 15s. The yearling bulls met even a readier sale, and the Tarbreoch lot were again in great favour. The present stock bull at Tarbreoch is Royal Liberty 4140, for which £150 was paid at this same Castle Douglas sale some years ago by Mr. Cranston, who afterwards sold him to Mr. Cunningham. Mr. Parkin-Moore, a fine young squire from Cumberland, who is spending his money in a sensible fashion in encouraging the home breeds of live stock, bought the first prize yearling at £100. This youngster is named Macdougall III. of Tarbreoch, and was got by the sire already named, out of Maggie of Tarbreoch 8613, the gold medal champion cow at Windsor. The next bull brought £49, and the third £51. Even the seventh prize winner, Lowlander 5834, drew £40, and the fourth made £46, at which price he went to Shropshire. The average price of the ten Tarbreoch yearlings was £35 10s.; Messrs. Biggar and Sons got the average of £25 15s. for three; Messrs. Shennan, Balif, £22 for four, and Mr. McCormick, Lochentit, £21 11s. 8d. for three. A large number of Galloways have recently been purchased for the English market, and altogether there is a distinct revival in the Galloway trade.

The greatest sale of light-legged horses, mostly registered Hackneys, took place at Gowanbank, Darvel, on Thursday, 30th March, when the well-known breeder and judge, Mr. Alexander Morton, sold seventy-six head by public auction, realizing the following average prices:—Ten saddle ponies made £408s. 6d. each; two pony mares in foal, £243s. each; two two-year-old ponies, £48 6s.; five pony yearlings, £18 1s. 2d.; ten harness mares or geldings drew £67 14s. 6d. each; fourteen Hackney brood mares, £58 4s. each; six Hackney stallions, £121 19s. 6d. each; four Hackney yearling colts, £63 15s. 9d. each; seven three-year-old fillies, £188 17s. each; seven two-year-old fillies, £91 7s. each, and nine yearling fillies, £39 11s. each. The demand for the registered Hackneys for breeding purposes was very lively, and some phenomenal prices were realized. The produce of the stud horse Donal Grant drew long prices, and his aristocratic lineage is borne out by the merit of his foals. Another horse that breeds first-rate stock is Mr. Morton's junior stud horse Goldfinder VI. (1791), a captivating animal, with grace in every movement. Mr. Hester, New York, was amongst the buyers, and struggled hard for the three-year-old filly, Bonnie Doon, which, however, escaped him, an Ayrshire gentleman, Mr. Marcus Bain, securing her at £525. The young horse, Jolly Shepherd, was also secured by a local buyer at £220 5s., but Mr. Hester carried off the three-year-old, Sweet Mary, at £336, and the two-year-old Craigielea, her own sister, at £200 5s. A large number of the animals were well into the three figures, as we say in Scotland that is, they were sold for over £100, and the sale from first to last was an uncommonly lively one.

In this, the first week of April, we have had an uncommonly busy time of it. On Tuesday a splendid general show of Clydesdales, Galloway cattle and Ayrshire cattle was held at Castle Douglas. On Wednesday the Directors of the Highland and Agricultural Society met, and amongst other things declined to discuss the question of the free importation of Canadian cattle. On Thursday the annual draft sale of horses from the Marquis of Londonderry's stud took place at Seaham Harbour, and on Friday the annual sale of young Shorthorn bulls took place at Kelso. We have already intimated the names of the champion Clydesdales at Castle Douglas. Montrave Dudley is owned by Mr. Wm. Montgomery, Banks, and Queen of the Roses by Mr. Leonard Pilkington, Cavens, Kirkbean. It will be remembered that she was bought at the Montrave sale, a year ago, for 1,000 guineas, by Mr. Andrew Montgomery. She seems a formidable enough like champion. Mr. Pilkington was also successful in winning several leading prizes with good Galloways, and the Ayrshire bull championship with the two-year-old Royal Stuart, for which he some months ago paid 200 guineas to Mr. Andrew Mitchell, Barcheskie. Mr. Abram Kerr, Castlehill, Duvisden, got the championship for Ayrshire cows with a fine animal of his own breeding—Yellow Boss of Castle-

hill. The champion Galloway was Henry of Tarbreoch, owned by Messrs. Clark, of Culmain, a magnificent animal, and well known to all fanciers of the Galloway.

The sale of the Seaham Harbour draft was a popular event, and Shetland ponies, Clydesdales and trotting cobs and harness horses all met a ready sale. On the whole there was most buoyancy in the Shetland demand: 45½ gs. or £47 15s. 6d. was paid by Mr. Clare, of Bradford, for a mite of a mare named Queenie, a gem of her class, and twenty-seven Shetland stallions made an average of £20 14s. 2d. apiece, while ten mares drew £27 14s. 10d. apiece. For the three-year-old Clydesdale stallion Sir David 9409 Mr. Riddell gave £540 15s., and for mares the following amongst other figures were realized: Stetta 11432 drew £126; Thrift 10759 drew £126; Hippona 11436 drew £115 10s., and the three-year-old filly Juliet, by Castlenagh, drew £152 5s. The average price of thirteen brood mares was £84 16s. 11d.; of three three-year-old fillies, £119; of two two-year-old fillies £18 16s. 6d., and of four yearling fillies £52 15s. 3d. The average for two three-year-old stallions £349 2s. 10d., two two-year-old stallions £56 3s. 6d., and five yearling stallions £29 16s. 5d.

At the sale of Shorthorn bulls at Kelso prices did not come up to those realized for Galloway bulls at Castle Douglas three weeks ago. Yearling bulls were drawing these prices: £25 4s.; £34 13s.; £21; £47 5s.; £36 15s.; and £31 10s. There was, however, a good demand, and the pedigreed stock were of excellent quality.

**The Shire Horse.**

BY DR. MOLE, TORONTO.

Horse breeders in Canada are in danger of making an irreparable mistake by breeding a class of horses not wanted which cannot be sold at any price. In consequence of the hostile McKinley tariff, and because the profits of horse breeding have declined, the farmers are breeding their mares to very indifferent stallions because the service fee is low. The mongrel-bred stallion is now more frequently used as his service fee is low, as there is no sale for horses; whereas the reverse is the case. There never was a greater demand for good horses, and there never was a better price paid for them, and I am all of opinion there always was a good demand and always will be for the good roaster.

The man who sells a horse whenever opportunity arrives may make a few mistakes, but he will always make a profit; whereas the breeder who hangs on for the larger price and thinks he has got a world beater, generally sells at a loss. In order to raise the best it is necessary to breed to the best, and the man who allows a few dollars to stand in the way of a good breeding stallion is making a mistake. If our farmers want to retain their character for raising the best draught animals, they must at once alter their system and breed their draught mares to the best draught stallion, the Shire horse to be preferred. Do not for one minute suppose that we hold a brief for the Shire horse, as our opinion has been often expressed, and our experience proven, that the Shire horse is more frequently free from any cause of unsoundness than other breeds. Another great advantage of breeding this class is, that they become useful on the farm at such an early age. At two years old they will take their place in all spring and summer work, and as soon as the fall work is done they are ready for any hard work that is going on, paying their way until five years old, when they are ready to be sold for town work or export, for whatever the carters and contractors want the farmer ought to supply. There has been too much desire to run after trotters and neglect the useful in horse raising.

The rise in favor of the Shire breed has been phenomenal. The Shire Horse Society was started about the year 1880, and now numbers more than 1,600 members. It is endeavoring to improve and promote the old English breed of cart horse, known as the Shire or War Horse, and be the means of distributing sound and healthy sires throughout the country. Their stud books are invaluable to breeders, of which there are twelve or fourteen published, and they contain the particulars of all the pedigrees from England's Glory, foaled in 1811, to the present time. There is no one gentleman who has done more in this respect than Mr. Walter Gilbey, whose name is a household word amongst Shire horse breeders all over the world.

The number of entries has been steadily increasing since the first show in 1880, when there were only about one hundred stallions and mares exhibited. At the Agricultural Hall, Islington, London, England, from recent advices, we learn there was close on 800 in the February, 1893. Now, what has been done can be done again, and we would urge the co-operation of the stud horse owners of the Dominion to unite and demand protection, and if they only approach the powers that be, we are sure that a bill could be presented this session to license and inspect the stud horses held for service. We do not advocate general purpose breeding, as it is impossible to produce a horse that will excel in several special qualities. A horse may be produced that can plow and draw the produce to market fairly well, and trot faster than the majority of plow horses, but what is he? Not a general purpose horse;

he might be described as a no-purpose horse, and his breeders are finding that out very rapidly, and also that there is no money in breeding that class after all.

We frequently hear there is no money in breeding horses, or is there any money in breeding trotters? To that we reply, the reward is great to those who understand and will devote sufficient attention to the subject, for the pure trotter must be bred, and not manufactured as formerly, by long years of development. If a breeder aims to produce a high class of carriage horses, he will assuredly meet his reward, for no type of horse will so certainly bring as much profit as the highest type of Hackney. It is at the present the fashionable type of horse, and Mr. Walter Silbey has paid 5,000 guineas, or just about \$26,250 (twenty-six thousand two hundred and fifty dollars) for a Hackney stud horse named Danegelt, a well-known Yorkshire bred horse, bred by Mr. Bourdas. He will in future be located at the Elsenham Hall Stud Farm, Essex, which at present contains the finest blood and stud horses in Old England.

**FARM.**

**Weeds.**

BY J. HOYES PANTON, M. A., F. G. S.

POLYGONACEÆ (Buckwheat Family).

In this family we find the joints of the stems much swollen and the lower part of the leaves forming sheaths. The flowers have no petals and bear a single seed.

*Polygonum aviculare* (Knot-grass Door-weed.)

This is an annual often found growing around the pump or in the back-yard; it does not grow very high, as the stem has a tendency to spread; leaves about half-inch long. This plant is very common about dwellings, around which it often forms matted patches.

*P. Persicaria* (Spotted Knot-weed).

A common annual about buildings, fences and low grounds. The leaves are usually marked with a brownish spot, and the plant about a foot high.

*P. convolvulus* (Knot-bindweed).

An annual which sometimes proves a troublesome weed; it runs and climbs, sometimes matting around objects near it. When hoeing it collects on the hoe and becomes a nuisance to get rid of. Thorough cultivation soon gets rid of this annual, the seeds of which bear a close resemblance to buckwheat, but are much smaller.



*Rumex Acetosella* (Sheep Sorrel or Field Sorrel). Fig. 35.

This annual is often found in sandy fields; its leaves are very sour. It is very common upon poor soil, and grows six inches to one foot high; the leaves are spear-head shaped on long stalks. Young plants grow up from underground stems. This perennial can be subdued by summerfallowing.

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*Rumex crispus* (Common Dock). Fig. 36.

This perennial is becoming very common throughout the province. It is a great nuisance in grass land, and seems to grow vigorously along the roadside and in ditches. The root is large, spindle-shaped and yellow; stem, two to four feet high; long leaves nearly a foot long and about two inches wide, with the edges somewhat curled. It bears many seeds, which have a sort of winged structure about them.

*R. obtusifolius* (Bitter Dock).

Another dock, but not quite so common as the former. The leaves of this are much wider, and present a less crumpled appearance, but in other respects it bears a close resemblance to the common dock. They are more frequently found along ditches and in fence corners than in the open field where cultivation is carried on. In such cases we must resort to the scythe and spud to get rid of them. Although we find several weeds in this order, still it has some of considerable economic value, such as buckwheat and rhubarb.

EUPHORBIACEÆ (Spurge Family).

Plants with milky juice and bearing flowers, some of which have nothing but stamens, others pistils only.

*Euphorbia Cyparissias* is sometimes called graveyard moss, though there is little in common to it and a moss. This form has escaped from gardens. It grows about one foot high; the stem crowded with linear leaves; the flowers are in umbels and dense clusters, presenting a greenish-yellow appearance.

*E. maculata* is a low form of spurge, with leaves possessing a brownish blotch in the centre, and hence sometimes called spotted spurge. We frequently see it growing between the ties along the railway track. It never proves a very troublesome weed.

URTICACEÆ (Nettle Family).

This family affords examples of herbs, shrubs and trees. The elm, fig, mulberry, hops, and the well-known stinging nettle belong here.

*Urtica dioica* (Nettle).

This tall perennial never proves of much trouble in the open field, but usually is found around stone heaps and in fence corners. We generally find the plants growing in masses and rather unpleasant to handle. The leaves are distinctly toothed and the spikes slender. Some of the flowers are pistillate, while others are staminate.

LILIACEÆ (Lily Family).

An order containing many extremely beautiful flowers, such as the lilies, hyacinths, tulips, trilliums and adder tongue.

*Allium tricoccum* (Wild Leek).

This plant is very common and becomes a great nuisance in the spring of the year, when it is eaten by cows. It has a very strong onion odour, which affects the milk of cows feeding upon it. The leaves are about seven inches in length and nearly two in width, bright green, and readily recognized by its smell. The leaves wither before the flowers appear. It is usually found in the vicinity of the woods, and gradually disappears as the woods are cleared away.

FIRST PRIZE ESSAY.

How to Construct Concrete Walls and Buildings.

BY THOMAS GRAYSON, MOOSOMIN, N. W. T.

The first thing requisite to secure a good building is to be sure and have a good, solid foundation. If you are going to excavate for a bank barn, you will no doubt be sure of a good foundation; but if you intend to start on the surface level, you should dig a trench two feet wide and deep enough to reach the subsoil. Then build a stone footing, say twenty inches wide, if for a twelve-inch wall (whatever width concrete wall is, the footing should in all cases project at least four inches on each side); use large, flat stones and good mortar; finish your footing perfectly level, true and square. If you intend putting in joists for floor, I would advise building a similar wall or footing to receive the same, and also to receive any posts for running beams to carry the upper floor joists. This I consider one of the most important things about any building which has an upper floor intended to carry a heavy weight, as the greater part of the weight comes on the posts, and if they are not on a good solid bearing they are very liable to settle when the weight comes on them, which would have a serious effect on outside walls, and also on the roof. When your footing is finished and given a day or two to set, begin and fix two by four-inch scantling three feet apart inside and outside of intended wall. Try and get them all straight in themselves, and be sure and keep the rounding edge on the inside all the time. Set them opposite each other and fasten together at the bottom with a strip one by two inches, well nailed to the bottom of the two by four pieces, and resting with one edge on the stone wall. Place the two by four-inch far enough apart to receive your wall and a one-inch board on each side. You may tack on one or two pieces higher up exactly the same length; then brace the two by four-inch in every direction thoroughly, and keep them perfectly plumb every way. Make your door and window frames the same width as your walls, and set your door frames before you start to build your concrete. Now take one-inch boards twelve inches wide and set on edge inside your two by four-inch scantling; get enough to go around your building, and joint them together on a scantling in every case. These same boards will carry you up to top of wall. If floor joists are going to be put in, I would try and arrange for them to come on the top of stone footing. Now you are all ready to start concreting. First we want some fresh burnt lime and good clear gravel, which should be free from soil or dirt of any kind. The quality of the concrete depends greatly on the gravel. When taken from the pit it should be screened through a quarter-inch screen on to a platform, which may be made with a few rough boards. Get out all the fine sand possible. The gravel should consist of the following sizes:—One-fourth about the size of hens' eggs (or this part might be substituted by broken stones), the remainder should vary in size down to very coarse sand, and should be mixed with lime in the following proportions: One of lime to five of gravel, mixed together in the following manner: Make a box six feet by six feet and ten inches deep, or a wagon box would do very well; put your gravel in this from the screen; make another box three feet by six feet and ten inches deep, with a hole on one end twelve inches wide; make the piece which you cut out so that you can slide it in or out; set one end of this box on one end of the gauge box (or wagon box), and support the other end on a trestle, giving a fall towards the gauge box of about two inches. Now measure in your lime and put on sufficient water to slack it; as your lime slacks add more water until it is all covered; mix it together thoroughly with a hoe, and keep on adding water until it is of the consistency of cream. Now you have your gravel all ready in the gauge box. Take your slide out of the end of running box, and let your lime run out on to the gravel, mixing the whole together thoroughly, then turn out on to a platform and mix again. Be sure and get the whole thoroughly mixed, and do not use too much water, for if you do it will run off and carry a good deal of the lime with it. Now you are ready to begin building your walls. Put in the concrete between the boards, take a stick, a piece of pole will do, about three inches in diameter and about three feet long, thin down one end for a handle. With this ram the concrete lightly, just sufficient to make it lay together solid. You may build up one foot high all round your building at a time, let that get set before moving your boards. If the weather is good, one day will be sufficient. Then raise your boards all round, and so on to the height for your window frames. Set them, and then go on to height for first floor joists. If you are going to carry your walls twelve or fourteen feet high, I would stop for a few days and let the walls get thoroughly set before going any higher. In all cases where frames are set in buildings, be sure and put pieces of board between the jambs, so as to keep them from being pressed out of the perpendicular by the weight of concrete, and lay in the wall wood blocks to nail the frames to when finished. It is advisable to have a few loose boards around during progress of building, which should be laid over the top of wall at the close of each day's work as a precaution against rain, which would spoil the work if allowed to run into wall. When walls are up to the intended height, and are set, take down the scantlings, knock

away all braces, and take a saw and cut away the pieces of one by two inches which go through the wall and have held your scantling together. You can drive the pieces out and fill up the hole which is left with mortar. Take a little mortar and go around and stop up any little hole you may have missed; or if you are desirous of having a well-finished job, mix sifted sand and lime in the same proportion as for concrete, and in the same manner; lay this on the outside of your walls about a quarter inch thick; start at the top, taking one side at a time and about five feet in depth. When you have laid on this much, take a float (wood trowel), get a white-wash brush and a pail of water, sprinkle the water on the face of your work, and then rub down with your float. This will take out all the trowel marks and keep the wood from cracking. You can lay it out in blocks to imitate stone by using straight edge, and mark joint with a trowel. If you want a chimney flue in wall for a furnace, or it would answer splendid for a ventilator, put a six-inch stovepipe bend in wall, at the usual height, which would form entrance to flue; put six-inch straight pipes on top of this, building concrete around same as you go along; any old pipe will do for this job. When you get to top of wall, then carry up in brick if for flue, or wood if for a ventilator. If these directions are carefully followed in every particular, you will have a good, warm, serviceable building at no very great cost.

Building Concrete Walls.

BY A. B. SCOTT, VANNECK, ONT.

When building a wall for a stable or house we should aim to have one that shall make the interior of the building most comfortable, and the best way to accomplish this is to build it of material that has very little conducting power. The concrete wall, on account of its infinite number of minute air spaces, is almost non-conducting, and hence it will keep the building warm in winter and cool in summer. A thick stone wall in which some stones reach through will often be found covered with frost on the inside in winter, and sometimes with moisture in summer, but the concrete wall when properly built is not penetrated by either frost or moisture.

It is one of the cheapest, substantial walls where sand, gravel and stone, or sand and gravel, or sand and stone can be had, and in most parts of the country can be built for ten cents per cubic foot of wall. This wall does not need to be as thick as an ordinary stone wall, because a water-lime concrete is much firmer and stronger than quick-lime as used by masons, for every stone is bedded in water-lime cement, which soon becomes as hard as stone.

The writer has a wall eight feet high under a barn 62 x 35, which has stood the wind and weather for ten years without any signs of decay, although it is only about twelve inches thick. This is thick enough for an ordinary sized barn, or it might be made fifteen inches thick at the bottom and twelve at the top. The services of a mason are not required for building a concrete wall, as any good common laborer, one who is learned in mixing the materials in proper proportions, can do the work quite well.

If any moisture is to come to the wall, it must be built of water-lime. The place should be excavated one or two feet beyond the proposed wall, so as to leave an air space on the outside, giving the wall a chance to dry and become hard. It will also be well to have a drain lower than the bottom of the wall to carry off any water that might otherwise come against it. After you have thus prepared the place for the wall, construct your boxes as follows:—

Take three by four scantling for standards, a little longer than the wall is high, and place these on each side of the proposed wall, as far apart as the thickness of wall and the plank used for the boxes. The plank should be fourteen inches wide, one and one-half inches thick, and a length to accommodate the wall. If the wall is thirty-two feet long, then the plank should be sixteen feet, and so on. The standards are held the proper distance apart by nailing a thin piece of board across under the lower ends, and fastening the tops with a cross piece. The wall is built over the pieces in the bottom, and they are left in it. The standards are then plumbed and made fast by braces on the outside. The planks can be moved up on the inside of the standards as fast as the wall goes up, and those on the outside must be longer than the inside ones by the thickness of the wall. The door and window frames should have jambs as wide as the wall is thick, and the door frames must be placed before the wall is begun. To hold the planks from springing out between the standards, take a narrow piece of hardwood board two feet long and bore a two-inch hole at each end, having the width of the wall (including the planks) between them, put a strong pin two feet long through these holes about ten inches. Now, these pins will just fit over the outside of the box planks, and by putting a brace between the upper ends will hold them tight against the planks and prevent their springing out. Two of these clamps will be required for each set of planks sixteen feet long.

Now, when the box planks are placed all around the wall, begin and fill in the concrete mortar and stone. First put in a layer about two inches thick of the mortar, then a layer of stone, then another of mortar, and so on, always letting the mortar come over the edges of the stone. If the stones are not permitted to come quite to the outside of the wall, the mortar over them will pre-







one round the body just in front of the udder, and the other round the chest immediately behind the shoulders. The truss should be applied for at least forty-eight hours, and the animal should be made stand with its hind parts considerably higher than its fore parts. If violent expulsive efforts continue give the following dose:—Raw linseed oil, one quart; tincture of opium, three ounces; fluid extract of belladonna, three drachms; feed on sloppy and easily digested food. Various causes have been assigned for inversion of the womb, among which are lymphatic temperament, debilitated system from disease or insufficient food, prolonged and difficult parturition, retention of the after-birth beyond the usual period, relaxed state of the uterine ligaments, weak and flaccid condition of the neck of the womb, predisposition, and anything that will unduly irritate the womb during or soon after parturition. It will be seen from the many causes which are said to operate in the production of this accident that it is very difficult to recommend a preventive, and the only thing that can be done will be to remove or avoid, as far as possible, the causes mentioned. In all cases of inversion of the womb the services of a qualified person, if available, should be employed.

I have a valuable 1,500-pound mare, heavy in foal. I drove her to town lately and noticed her slightly lame on going down a hill, the snow being very deep. It is the right hind foot. I can find no tenderness in the sole of her foot. I pared and poulticed it for two or three days, but it did no good, and hammered it all over with a small hammer. The only place she feels pain is right above the hoof, in front of the coronet. There is no swelling about the leg or foot, unless where the pain is at the coronet. It looks but very little larger than the other foot, and for the last two weeks I have used Clark's White Liniment, but she is still very lame, although I think a little better than she was. Will it do her any harm standing so long in the stable without exercise, as she is in good condition and heavy in foal? Would like to know what your V. S. thinks is the cause of the lameness and what can be done for it.

Wm. Gibson, Wolsley, N. W. T.  
I think from your description of the case that it is *Coronitis* (inflammation of the coronary substance), probably caused by a tread or otherwise bruised. The treatment will consist of cutting away the hoof from the coronet at the point where the swelling and soreness appear. This is done for the purpose of relieving the part from the pressure of the hoof. In addition to this, cut the hair closely from the sore part, and rub in with the fingers the following ointment:—Cantharides, pulv., and biniodide of mercury, of each one drachm; vaseline, one and a-half ounce. Mix; let it remain for forty-eight hours, wash off and apply vaseline or lard. Put the animal, if possible, in a comfortable and roomy loose box. It will, however, be necessary to keep her mouth from the blister while it is acting, say for the space of twelve hours after applying it.

Since the beginning of winter I have lost three cattle, two years old, through the following symptoms:—The calf lies down, not to rise again, due to extreme weakness in the legs; although it does not seem to make them suffer, they nevertheless die inside of a couple of days. It might be due to the cold, also bad grub and the want of water, but I'm supplied with good stables, clear water and first-class hay, and my cattle are all in the best possible condition, but to my utmost wonder I have seen a calf, an hour before lying down, run and jump, being full of life, and then inside of a couple of days die as if it were due to pure exhaustion. Quite a number of farmers have lost cattle in a similar way, and the disease seems only to affect young cattle, generally those which are strong and well fed. I will feel greatly obliged for an answer to my inquiries, either in French or English, as I read both languages.

L. ACAR, Tupper, Man.  
Your description of the disease is not sufficiently extensive to warrant me in giving a decided opinion as to its nature. It is probably anthrax (charbon), and if you lose another animal in the same way I would advise you to have the carcass examined by a qualified person.

Could you answer through your valuable paper what effect blinding would be likely to have on the temper of a vicious, unmanageable stallion; would also like to know if any electrical appliance is made for use in taming animals?

"EQUITES," Dewdney, Alberta.  
[We would advise you to procure "Art of Taming and Educating the Horse," by D. Magaer. The work contains the latest and most reliable information on the subject of your enquiry, and may be ordered through Williamson & Co., No. 5 King street W., Toronto. Price, \$5.00.]

ANSWERED BY J. H. TENNENT, V. S., LONDON, ONT.

I have a well-bred mare, rising two years old, which has small ulcers coming on inside of nostrils and on lips. Rubs her tail and hips on sides of stall. Has good life and is in fair condition. Fed during the winter on two quarts oats twice a day and all the oat straw she would eat. Also have a thoroughbred Yorkshire boar which I want to castrate. Is there any way of administering chloroform for that purpose? If so, please explain how.

GEO. M. SHEPARDSON.

Give your mare a dose of purgative medicine, composed of Barbadoes aloes, six drachms; ginger, two drachms; carbonate of soda, two drachms; water, one pint. Give this as a drench. Follow up this treatment by giving every night in the feed, one drachm saltpetre and two drachms sulphur. Bathe the ulcers night and morning with wash composed of the following:—Alum, two drachms; acetate of lead, two drachms; sulphate of zinc, two drachms; water, ten ounces. We could not recommend the administration of chloroform to the boar, as he would have to be thrown and tied before being chloroformed, while an expert hand would have the operation performed long before the drug had taken effect.

1. Can you inform me of the best way to remove a naval rupture? 2. Also a good remedy to grow a new frog in the foot of a horse which has had the thrush?  
SUBSCRIBER.

1. It can be operated on safely and successfully by any skilful veterinary surgeon. We would advise having the animal cast, and return the bowel; take the skin well up and apply a strong wooden clamp right over it, taking care not to encase the bowel in the clamp. Leave the clamp on until it drops off with the skin enclosed in it. Others recommend passing skewers through the skin in place of the clamp, and pass a strong twine tightly over the skewer in the shape of a figure eight; allow it to remain on until it drops off. Others recommend puckering up the skin, drawing well up, and tie a strong twine tightly around it. In this case, it would be necessary to pass one skewer through it to keep the ligature from slipping off. Others recommend cutting through the skin, expose and scarify the abdominal walls; bring the parts together by means of sutures. This is the most surgical way. We would recommend one of the simpler ways. 2. Mix equal parts of pine tar and lard by warming over the stove and stirring thoroughly. Apply to the foot every night.

I have a cow four years old. Last fall I noticed a small lump come in her teat. It got larger till I could not get any milk, and she went dry. This spring, when she calved, her bag filled up all right, but I could not get any milk out of the teat with the lump in, so I punched it with a small needle. I got some milk for a few days, but it closed up again, and I can't get any milk at all. Also a two-year-old heifer which has gone just the same way and has gone dry. What is the cause, and what is the cure, if any?  
WM. C. WATSON.

We cannot advise anything better than leaving her alone. Treatment is liable to make matters worse, and the cow will give nearly as much milk out of the three teats as she did before. In case of much soreness or inflammation, foment with hot water and apply lard. Try rubbing on a liniment made as follows:—Put say four ounces alcohol in a bottle and add as much gum camphor as it will absorb; then add one part common turpentine to three of this mixture.

I have a two-year-old heifer of Holstein breed, which calved February; had twins. Have noticed milk on the floor under her. I think she loses it when lying down. Cannot say from which teat it comes. Is there anything I can do to prevent it? J. L. A.

We can only give the same advice as above—to leave the heifer alone. Some recommend searing with a hot iron or using nitrate of silver, but in the hands of any but an experienced person it is as liable to make the opening larger as otherwise. As the heifer gets older and stronger, the weakness will doubtless disappear.

Miscellaneous.

What is the most cleanly and satisfactory way of tying cattle in their stalls? Is the "swinging stanchion" a good fastening? R. K. J., Innisville.

We prefer the common chain, with swivel and large ring sliding on a bar at side of stall, though the swinging stanchion is used by some good men; still, the greatest number give their verdict in favor of the chain as being more convenient and giving the animal more freedom.

Suppose I build a silo and fill it (say) four feet deep about the 1st of June with rye, and four feet about the 1st of July with clover, and fill the balance the latter part of August with corn, and cover each part with cut straw, will it give as good satisfaction as if it was all filled at the same time?  
R. H. H., Thorndale.

ANSWER BY PROF. JAS. W. ROBERTSON.

1. There would not be enough weight in rye ensilage of a depth of four feet to make it compact without the application of heavy weighting or some other pressure. If it lay loose it would become mouldy or musty, and be partly or wholly spoiled.
2. The same applies to clover.
3. The risk of loss would be reduced to a minimum by putting the rye and clover into the silo while quite green and without any wilting. The fine stalks of these plants would then settle more closely and exclude the air after the mass commenced to heat.

DAIRY.

Canadian Cows at Chicago.

To the Editor of the FARMER'S ADVOCATE.

Thinking your readers would be interested in our dairy exhibit, I send you the results of the last three days' dairy test at the barns. Your readers will be aware that Ontario has sent five Shorthorn cows to take part in the battle of the breeds in these great tests. The first, which commences on Thursday, May the 11th, is for making cheese. Unfortunately two of our cows, Fair Maid of Hullett, owned by Mr. Wm. Grainger, Lonsdale, and Lady Bright, owned by H. Wright, of Guelph, have not as yet dropped their calves, although we were told by the owners that they were due before this date. If the rules for the three tests as laid down and printed were carried out this would prevent them coming in for the second test of butter and general products, but fortunately at a meeting of the Dairy Test Committee this morning, which I attended, having been invited by the Hon. H. H. Hinds, Shorthorn Dairy Commissioner, they changed the rules so as to admit our two tardy cows, and one Guernsey sent under the same circumstances. This is an important concession, and I am sure will be appreciated by our Canadian people. This committee was attended by W. I. Buchanan, Chairman; Prof. Babcock, Prof. Scovell, Val. E. Fuller, Supt. of Jersey cattle; W. Caldwell, Supt. of Guernsey, and H. H. Hinds, Supt. of Shorthorn cattle.

The unofficial test of the three cows that are milking for the last three days is as follows:—Waterloo Daisy, owned by F. Martindale, of York, on the 6th gave 49½ lbs. of milk, on the 7th 51 lbs., and on the 8th 51½ lbs., topping the Shorthorn record in the barn; Royal Duchess, owned by J. F. Davis, of Glanworth, on the 6th gave 41 lbs., on the 7th 41 lbs., and on the 8th 42½ lbs. of milk; Marchioness 6th, owned by Thos. Ballantyne & Son, of Stratford, on the 6th gave 35 lbs., on the 7th 39 lbs., and on the 8th 40 lbs. of milk, all averaging over 4 per cent. of butterfat. They are all improving, though they get nothing but dry feed and grain.

Yours truly,  
H. WADE, Sec. D. S. H. B. A. Chicago, Ill., May 9th.

Canadian Dairy Products for the World's Columbian Exposition.

DAIRY COMMISSIONER'S OFFICE,

Ottawa, 28th April, 1893.

I have been directed by the Honorable the Minister of Agriculture to make such arrangements as may be necessary to assist the dairymen of the Dominion to make a truly representative and creditable display of butter and cheese at the World's Columbian Exposition at Chicago in 1893.

The following extracts from the rules of the Department of Agriculture of the World's Columbian Exposition set forth the particulars in reference to the classes for Butter and Cheese.

Canadians may be exhibitors in any or all of them.

BUTTER.

EXTRACTS FROM THE RULES OF THE DEPARTMENT OF AGRICULTURE.

"11. Dairy products will be received for exhibition only between the first and tenth of the following months: June, July, September and October, 1893.

"12. The arrangement of all dairy exhibits will be under the control of this Department.

"13. Exhibits of butter will be classified and limited, as follows:

- Class 1. *Dairy*.—butter made by exhibitor on the farm from a mixed herd. Exhibit to consist of not more than one package, weight to be not less than 10 nor more than 20 pounds.
- Class 2. *Dairy*.—butter made by exhibitor on the farm from a herd of *one breed*. Exhibit to consist of not more than one package, weight to be not less than 10 nor more than 20 pounds.
- Class 3. *Prints and fancy packages*.—butter must be manufactured by exhibitor. Exhibit to occupy space not exceeding 18 inches square. Total weight of exhibit not to exceed 20 pounds.
- Class 4. *Creamery*.—butter made by the exhibitor from the milk of *mixed herds* from cream separated from the milk in the creamery where the butter is made. Exhibit to consist of one commercial package, to weigh not less than 55 pounds.
- Class 5. *Creamery*.—butter made by exhibitor from gathered cream. Exhibit to consist of one commercial package to weigh not less than 55 pounds.

"19. Butter will be judged on the following points, the figures set opposite indicating the maximum per cent., the total of all such maximums being 100:

Flavor.....	45
Grain.....	25
Color.....	15
Salting.....	10
Packing.....	5
Total.....	100

"The general standard of color for butter will be "June Grass Butter."



Special blanks will be furnished by this Department for the use of exhibitors of dairy products."

CHEESE.

EXTRACT FROM THE RULES OF THE DEPARTMENT OF AGRICULTURE.

"14. Exhibits of cheese from the United States and Canada will be classified and limited, as follows:

- Class 1. *Cheddars*—Exhibit to consist of one cheese, diameter not less than 14 nor more than 16 inches, height not less than 9 inches, weight to be not less than 50 pounds.
- Class 2. *Cheddars*—Home trade—Exhibit to consist of one cheese not less than 6 inches in height and not less than 12 nor more than 15 inches in diameter.
- Class 3. *Mediums*—Exhibit to consist of one cheese not less than 6 nor more than 7½ inches in height, diameter not less than 14 nor more than 15½ inches.
- Class 4. *Flats*—Exhibit to consist of one cheese, diameter not less than 13 nor more than 16 inches, weight not less than 25 nor more than 40 pounds.
- Class 5. *Young Americas*—Exhibit to consist of four cheese in one package, total weight to be not less than 30 nor more than 45 pounds.
- Class 6. *Domestic Swiss*—Exhibit to consist of one cheese, weight to be not less than 30 pounds.
- Class 7. *Brick Cheese*—Exhibit to consist of six bricks in one package, total weight to be not less than 20 nor more than 40 pounds.
- Class 8. *Dairy*—Cheese made by exhibitor on the farm from exhibitor's own herd. Exhibit to consist of one cheese, weight to be not less than 30 pounds.
- Class 9. *Pineapple Cheese*—Exhibit to consist of four cheese in one package.

"15. Cheddars and flats will each be classified in two groups, viz., white and colored, and will be separately judged. Cheese, other than that mentioned above, offered for exhibit from the United States and Canada, and all cheese offered for exhibit from points outside of the United States and Canada, will be subject to such limitations and restrictions as to quality as may be decided upon by the Chief of the Department at the time application for space is made.

"16. All cheese exhibited from the United States and Canada, known commercially as "American" and "Canadian" cheese, must be manufactured of full new milk.

"17. Cheese that has been cut, bored, or tried in any way, will not be admitted for exhibition.

"18. All cheese will be divided into two classes, that made previous to the year 1893, and that made during the year 1893, and will be judged on the following points, the figures set opposite each indicating the maximum per cent., the total of all such maximums being 100:—

Flavor.....	45.
Texture.....	20.
Color.....	15.
Salting.....	10.
Make up.....	10.

Total..... 100."

Canadian manufacturers of cheese should make numerous and excellent exhibits in Classes 1, 2, 4, 5 and 8. Class 5 will admit cheese which are commonly known as "Canadian Loaf" or "Truckle" cheese.

Since all cheese will be divided into two main classes, "that made previous to the year 1893, and that made during the year 1893," any Canadian Exhibitor may enter cheese made previous to 1893, as well as cheese made during 1893, in every class in the exhibitions to be held during the four months of June, July, September and October.

Canadians should make excellent exhibits in all classes.

In order to afford intending exhibitors every reasonable facility, I am permitted to make the following announcements and to invite the hearty co-operation of butter and cheese-makers, creamery managers and patrons, in an effort to make such a display of dairy products as will direct the attention of the world, in a favorable manner, to the admirable opportunities which Canada offers for profitable dairy farming.

(1.) Those who intend to exhibit may write to the Dairy Commissioner, Ottawa (postage free), asking for address labels for butter and cheese and for entry forms.

(2.) Any butter or cheese-maker, or representative of any dairy or cheese factory, may send butter or cheese for exhibition in any or all of the classes (in which he is entitled to exhibit), addressed to the Dairy Commissioner at Montreal or Ingersoll, Ont., to reach either place between the 31st May and 2nd June; between 28th June and 30th June; between 30th August and 1st September, and between 27th September and 29th September.

(3.) The butter or cheese for all the classes and for the four different exhibitions (June, July, September and October), may be of any month's make. If two cheeses from one vat be available, one cheese can be bored for testing at Montreal or Ingersoll, while the other may be kept intact for exhibition at Chicago.

(4.) It should be packed securely so as to avoid injury from heat during transit from the place of manufacture to Montreal or Ingersoll, Ont. Cold storage accommodation has been arranged for at these two places; refrigerator cars will be used between these places and Chicago; and refrigerator space under glass has been provided at the Dairy Building on the Exhibition Grounds.

(5.) The Dominion Government will pay all freight charges, as well as the cost of caring for the butter and cheese during the exhibition and until it is disposed of afterwards.

(6.) By the authority of the Honorable the Minister of Agriculture, I am permitted to state that the Government will advance such a price as may be fixed by the Dairy Commissioner, on all the butter and cheese which is received at Montreal and Ingersoll.

(7.) Several expert judges of acknowledged reputation in Ontario and Quebec have been invited to assist the Dairy Commissioner in selecting from the lots which are received at Montreal and Ingersoll, such butter and cheese as may be counted worthy of being sent to Chicago. Where any doubt arises, the butter or cheese will receive the benefit of the doubt.

(8.) After the awards have been made at Chicago in each of the four months, the butter or cheese which has won medals, or honorable mention, will be arranged in Provincial groups, where it will be used as may best set forth important facts pertaining to the dairy and general agricultural interests of the several Provinces of Canada.

GENERAL.

The several exhibitors will be afforded every opportunity which may exist, or which may be provided, for winning medals and prestige for themselves; and they will not be asked to incur any loss, as the Government will not claim any rebate on the price which is advanced on the butter and cheese. This provides for liberal treatment of those engaged in the great dairy industry of Canada, and I invite your cordial co-operation in the effort to make the Canadian exhibition of butter and cheese the best which has ever been made.

JAS. W. ROBERTSON, Dairy Commissioner.

Rendering Cheese Factory Accounts by Percentages of Butterfat in Milk.

BY J. W. WHEATON, SECRETARY OF THE WESTERN DAIRYMEN'S ASSOCIATION.

In a large number of the cheese factories in Western Ontario patrons will be paid for milk supplied according to the percentage of butterfat, as shown by the Babcock milk tester. There seems to be considerable difficulty in the minds of many dairymen as to how the dividends are to be apportioned according to this new method.

The test is made once a week. A sample of milk is taken from each patron's can every morning, and at the end of the week a composite test is made showing the percentage of butterfat in each sample. The manner of rendering the patrons' accounts is comparatively simple and the calculations straightforward, and though more figuring is required, yet, if the same care and accuracy is shown, there is no more liability of making a mistake under the new than under the old method.

Find the amount of milk supplied by each patron for the week and multiply this by the percentage of butterfat, as shown by his weekly test, when the total butterfat supplied by him for the week will be shown in pounds. Add together the weekly totals of butterfat, and the result will be the total butterfat supplied by each patron for the month, and the sum of these monthly totals will be the total butterfat received at the factory during the month. Divide the net proceeds from monthly sales of cheese, less cost of manufacturing, by the monthly total of butterfat, and the result will be the price of the butterfat per pound for the month, when the amount due each patron can easily be calculated by multiplying his monthly total of butterfat by the price per pound. For example, if A, B and C, three patrons of a cheese factory, supply 939, 1467 and 870 pounds of milk respectively for a week, and A's milk shows 3.6 per cent. of butterfat, B's 3.8 and C's 3.5, A would supply 939 x 3.6 = 33,804 pounds of butterfat, B 1467 x 3.8 = 55,746, and C 870 x 3.5 = 30,450, and the total butterfat supplied for the week would be 33,804 + 55,746 + 30,450 = 120,000 pounds. If the quantity of cheese made during the week be 327 pounds, and it sells for nine cents per pound, the net receipts, less two cents per pound for manufacturing, would be \$21.80. Hence the price of the butterfat per pound would be 21.80 ÷ 120,000 = 18.17¢, and A would receive 33,804 x 18.17 = \$611.16, B 55,746 x 18.17 = \$1011.16, and C 30,450 x 18.17 = \$553.55.

The monthly total of butterfat may also be calculated by multiplying the monthly total of milk supplied by each patron by an average of his weekly percentages of butterfat. For instance, if the weekly percentages of butterfat be 3.6, 3.8, 3.7 and 3.8, then the average percentage for the month would be 3.725, and the monthly total of butterfat found by multiplying each patron's monthly total of milk by this amount. This method saves considerable labor to the secretary, but is not so correct as making up the totals of fat weekly. However, the variation is not very great, and if the amount of milk supplied each week does not vary much, each patron will receive nearly the correct value for his milk.

In many factories the stockholders are charged a lower rate for manufacturing than the non-stockholders, and consequently there will be a little more

difficulty in ascertaining the price of the butterfat per pound to each. A very simple way to get at this is to divide the monthly total of butterfat received at the factory by the monthly total of cheese manufactured, and the result will be the amount of butterfat in a pound of cheese. Then, the price of the butterfat per pound to stockholders and non-stockholders respectively may easily be obtained by dividing the net price of cheese per pound, less cost of manufacturing in each case, by the pounds of butterfat in a pound of cheese. For example, if the stockholders are charged one and a-half cents per pound for manufacturing cheese, and the non-stockholders two cents, and if the monthly total of butterfat received be 22,631 pounds and the monthly total of cheese made be 56,722 pounds, then the pounds of butterfat in a pound of cheese would be 22631 ÷ 56722 = .398; if ten and a-half cents per pound be the wholesale price of the cheese, then the net price of cheese to stockholders would be 10.5 - 1.5 = 9c., and their butterfat would be worth 9 x .398 = 3.58¢ per pound, and the net price of cheese to non-stockholders would be 10.5 - 2 = 8.5c., and their butterfat would be worth 8.5 x .398 = 3.38¢. By adopting some method of calculation similar to those given, the rendering of patrons' accounts may be made without any great difficulty, and if the secretaries are fairly well versed in figures, and are at all accurate, each patron may rely on getting just value for the milk supplied by him to his cheese factory. Both cheesemakers and secretaries are urged, however, not to leave a stone unturned in their endeavors to make the test and to make up the books in the most accurate way, so that no patron at the end of the season will have any grievances against this new method of paying for milk because of errors and mistakes on the part of those operating it.

Queries Regarding Paying According to Test at Cheese Factories.

BY H. H. DEAN, O. A. C., GUELPH.

The three following questions have been sent to the Dairy Department at the College for our opinion, and as they are such as will likely come up in a number of factories which pay for milk according to the per cent. of fat, we take pleasure in sending the opinions given to your paper, that some of its many readers may possibly be profited. The first came from a proprietor of two factories in Western Ontario.

1. At our annual cheese meeting one of the patrons asked me, if he kept part of his milk at home and sent the cream of it to the factory with the rest of his milk, did it make any difference to the rest of the patrons that were sending? Was it cheating himself or the other patrons by him sending the cream of that pool and keeping the skim milk at home, as he could feed it to calves and hogs? I would be pleased if you would answer the question for me, as I am going to pay according to butterfat at both my factories.

At the one factory in the province where they paid by test last year, some of the patrons kept at home the "fore" milk, and some, I understand, skimmed and sent the cream. Now, is this fair and just to all patrons? is a question that has come up at several of the annual cheese meetings. Again, under the present laws could persons so keeping back "fore" milk or skim milk be prosecuted for fraud? My answer to the first question is, No; to the second, Yes. My reasons for the same are:—

First Question.—Suppose a patron has 200 pounds of 3 per cent. milk. That would be 6 pounds of fat. Now, suppose further that he skims the evening's milk, which we will say is 100 pounds of the same quality as his average. Say that he takes off 20 pounds of cream and mixes this with the 100 pounds of morning's milk and feeds the 80 pounds of skim milk to calves and pigs. The 120 pounds of cream and morning's milk would test about 5 per cent. (making no allowance for loss of fat in skim milk, which would be practically nothing if done with the separator), which would be 6 pounds of fat—the same as if he had sent the 200 pounds of whole milk testing 3 per cent., and he has the 80 pounds of skim milk to feed. In other words, by paying according to test he would get just as much pay for his 120 pounds of cream and milk as he would for his 200 pounds of whole milk, and he has 80 pounds of skim milk for feeding. Would this 120 pounds make as much cheese as the original 200? No, decidedly not; because there is lost about 2.3 pounds of casein (reckoning skim milk to contain 2.88 per cent. of casein, according to Fleischman) in the skim milk, which casein or cheesemaking material would have added to the quantity of cheese made. Of course we know this richer milk would make more cheese and richer cheese than the same amount of 3 per cent. milk, but would it bring that much higher price as to pay for skimming? We doubt it. This milk, however, will not be made up by itself, but will be mixed in a vat along with others, and some might say that the cream will add to the value of the whole vat of milk enough to warrant the extra pay. This cream would not, although normal rich milk would (i. e., if the average of the vat were rather low), because in normal milk there is an increase of the solids not fat with the fat, but in the case mentioned we have an increase in the fat without a corresponding increase in the other solids which are necessary in cheesemaking.

In answer to the second question, so far as I am able to judge from the "Act to provide against frauds in the supplying of milk to cheese or butter manufactories," as amended by 55 Vict., Ont. Statutes, and published as an appendix in the



Annual Report of the Dairymen's Association of Ontario, p. 201, this Act provides for nothing to cover the case in point, and should be amended so to do. "An Act respecting the adulteration of Food, Drugs and Agricultural Fertilizers" (Dominion Statutes) does, however, offer protection in this case. Section 15 of this Act says:—"If milk is sold, or offered or exposed for sale, after any valuable constituent of the article has been extracted therefrom, or if water has been added thereto," etc. Skim milk and "fore" milk certainly contain a "valuable constituent" for cheesemaking, and parties retaining such would be liable to the penalties provided in the Act.

2.—This question was sent by the secretary of one of our joint stock factories:—"The question has been raised at our cheese factory, and I find that a difference of opinion exists, as to the right of the maker to deduct from a patron's milk when he is aware that the can or cans were exposed to a shower of rain, and when payment is to be made according to the fat as shown by the Babcock tester and the composite test principle in testing once a week. Would you kindly give me your opinion?"

The following opinion was sent on this question:—"It will not be necessary for cheesemakers to deduct for rain when paying by test (except to make a "good average"), as water added will not affect the total fat credited to a patron. For instance, say a patron has 100 pounds of whole milk testing 4 per cent. fat, that would be 4 pounds of fat. Suppose further that 10 pounds of rain water gets into this milk. That will make him 110 pounds of milk and water, which will test about 3.65 per cent., and will still be credited with about 4 pounds of fat. Theoretically this water would affect the composite test, but practically it would not to any great extent. For an explanation of this see the College Report for 1892, Dairy Department, under Composite Testing.

3.—The third was also sent by the same person, and as it has been asked several times before, we answer it all the more readily:—"Do you think it will answer as well to take the average test for the month and multiply the month's milk thereby as to multiply each week's milk by the weekly test?"

Answer.—It will be necessary to multiply each week's milk by the weekly test, as the following example will show:—

1st week—300 lbs. milk.	Composite test=3.00%	9.00 lbs. fat.
2nd " " " "	" " " "	" " " "
3rd " " " "	" " " "	" " " "
4th " " " "	" " " "	" " " "

Month—1800 lbs. milk. Average test, 3.75% 69.50—total fat.

1800 x 3.75 = 67.50 lbs. fat, which the patron would be credited with by multiplying the total pounds of milk delivered by the average percentage of fat for the month, whereas we see the actual pounds of fat delivered would be 69.50—a difference of two pounds.

If the pounds of milk delivered each week and the weekly test during the month are much the same (i. e., do not vary a great deal), then the difference in the two methods would not be so much. The more that the weekly pounds of milk and the weekly test vary, the greater will be the error in multiplying the month's milk by the average of the tests for the month.

## POULTRY.

### Poultry on the Farm.

BY MRS. IDA E. TILSON, WEST SALEM, WIS.

I have found an easy and efficient way of cleaning my chicks' milk dishes, by just soaking the latter over night in a pan of cold water. Practice as well as preaching, or an actual programme, used during the first four critical days for my broods, hatched April 5, may also interest and profit. It was, as usual, regulated somewhat by my own convenience, yet very well blends different kinds and effects of food and secured perfectly thrifty chicks.

#### FIRST DAY.

First meal, bread and milk; second meal, Dutch cheese; third, dry bread crumbs; fourth, oatmeal, moistened by milk; fifth, baked custard from our table.

#### SECOND DAY.

1. Some of the pudding prepared for my hens, being bran, shorts, cornmeal, ground oats and barley, seasoned with bean soup. 2. Dutch cheese. 3. Bread and milk. 4. More of same pudding. 5. Bread and milk and wheat.

#### THIRD DAY.

1. Dutch cheese. 2. Raw egg, thickened with crumbs. 3. Mush from our table. 4. Boiled egg and bread crumbs chopped together. 5. Bread and milk and wheat.

#### FOURTH DAY.

1. Baked beans from our table. 2. Oatmeal and chopped raw onion. 3. Oatmeal. 4. Bread and milk and wheat. 5. Boiled egg and fried potatoes.

The fifth day their pudding was seasoned with salt and mustard; the sixth, with powdered charcoal and lard scraps. More pudding and meat, and less bread then became the order of the day. A mill does not grind when the wheel is still, nor a loom weave when the shuttle is idle, so a chick cannot digest nor grow unless it exercises, runs and stretches. Neither is there much of a product unless the hopper holds plump grain and the shuttle carries a strong thread. Soft food does not bring out the gizzard's full grinding power, and a chick must early be supplied with gravel, meal, oatmeal and wheat. When cracked grain is unobtainable, small, shrunken kernels, not musty, can be

swallowed, and will answer. The oatmeal I feed at first is that prepared for table use. Soon there is given the coarse, domestic kind, ground for stock by our local mill. Oatmeal may be called expensive, but expense cannot be considered in building good foundations.

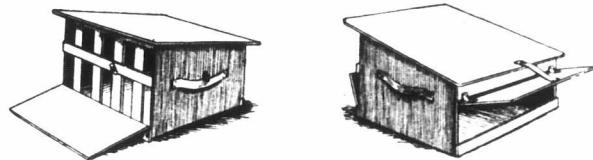
I am, this season, using with great satisfaction some lath coop-pens. They are made the length of the lath, and as wide as my coop, thus inclosing several feet of ground. My coops are nearly square, hence a rectangular pen is required, but for an "A" coop, an "A" shaped pen, with two slanting sides meeting at top. Placed in front of their coop the first day or two after chicks arrive, the latter can sun without being "stepped on" by every conceited old fowl that passes. My chief use, however, is in rear of coop, over biddy's entrance, which is then opened into this pen, so she can get sunshine, air, grass, dust and health, as well as train and plainly see her babies, without dragging them all over the country before strong enough. Place some boards against or on this pen, and even windy, rainy weather cannot spoil biddy's plans and exercise. Each morning, previous to opening, move the coop with its pen to "green fields and pastures new." Not only young broods and dewy mornings sometimes make it impracticable for mamma biddy to roam at liberty, but a tempting berry bed may lie near. I remember a gardener's wife, whose husband's business, of course, often precluded her mother hens from running abroad, and they were confined in coops for days, till their neck feathers all wore off by continually trying to get out and rubbing on their prison bars. What a merciful provision such a yard would have been. Placed among grape vines and in favorable spots, biddy could have done much useful cultivation and doubtless caught many bugs, her vigorous scratching propensities, like a person's strong will or high spirit directed and controlled, thus proving a benefit to society as well as to herself.

I sometimes think people make "tramps" of their chickens by neglect in providing variety, and I have often wondered why sunflower seeds, a combined food and digester, are not more often grown for poultry. Especially should such oily foods be provided whenever there is any lack of gravel, for, if fats cannot grind like gravel, they soften the food, send it along, preventing crop-bound and other clogged conditions. Last year press of other work made our sunflower plantings very late, but they grew faster and larger than ever before. Sunflowers do, indeed, germinate quickly; they accept poor soil and need less cultivation than corn does. I always save my own seed of our common black variety. The Russian kind is prolific, but often blights; its seeds have less oil and seem rather large and clumsy for fowls to swallow. Doura, or Egyptian corn, is a sturdy plant, and its seeds are wonderfully relished by chickens. The English sparrow is our great nuisance and hindrance in raising all such things, but perhaps he has not monopolized the whole continent and some localities may be free from his ravages yet. Broom corn and sugar cane seeds darken the flesh of fowls, but are all right for present and prospective layers. Poultry are of the bird family, and their natural home is among trees and bushes, which they seek for shade when hot, as shelter from wind, as security against hawks, and for general protection. Low bushes, like currants or the sprouts which grow up around stumps, are especially favored by my hens. In a new or treeless country sunflowers would form an admirable shade. A sweet-corn patch, the hens' very own, is another example of covert and food combined. Such ears as the hens cannot reach, bend down for them. They show their sense by liking corn at the same stage people do.

Every year I learn new things and do better by my poultry, because the business has proved both scientific and profitable. I had, last September, an even hundred fowls, and in the eight months since have lost but four, two by accidents, two by sickness, a remarkable record, I think, of health, happiness and productiveness during so long and cold a winter. Reaumur, the French philosopher, a pioneer poulterer, thought aiding the growth of living creatures was an artistic employment, far surpassing in dignity the handling of lifeless machines and products.

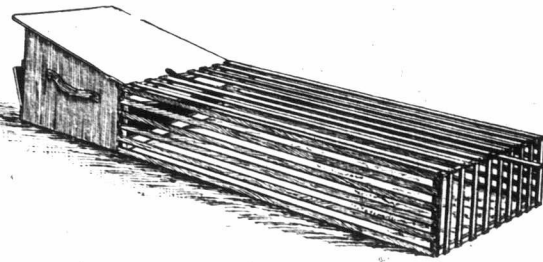
### Convenient Chicken Coops.

The size of the coop may vary according to the breed to be accommodated, whether that be large or small. A good size is 22x26 inches upon the bottom, 22 inches high in front and 19 inches in the



rear. The coop rests upon two pieces of 2x4 nailed upon the bottom. This prevents a damp floor. The coop has always proved rat and skunk-proof. Its hinges and handles are home-made, of leather nailed on.

The coop-pen has two sides, a top and one end, and is made of lath, properly braced. The other end is formed by the coop, and its bottom is the ground. The lath are put on 2 1/2 inches apart. This gives the hen and chicks exercise when not practicable for them to run abroad. A sliding lath in the top per-



mits the attendant to reach in with food and to open or shut door without moving the pen.

## APIARY.

### The Apiary.

CONDUCTED BY MR. ALLEN PINGLE,  
SPRING FEEDING AND STIMULATION.

Bees are fed in the spring with one or both of two purposes in view. They are fed, when deficient in stores, to keep them up till they can help themselves in the gardens, orchards and fields, and they are fed with the object of stimulating the colony to increased brood-rearing. The latter has been practised extensively in the past among the best bee-keepers, but is now "going out," as it ought to do. Queens which require such artificial stimulation to do their duty are not worth keeping. With plenty of honey in the hive a good queen will breed up in the spring quite fast enough. It may happen, however, through accident or neglect, that there will be a number of inferior queens on hand in the spring, in which case it is, of course, advisable to hurry her up by artificial means, otherwise her little family will not be strong enough to take full advantage of the honey flow when it arrives. But great care is necessary in feeding a weak colony in spring, whether for stimulation or to supply needed stores. The effort to save the colony may be the means of ending it, if robbing is superinduced. Feed just before dark on warm evenings, and the food will then be disposed of during the night without any exposure to intruders. Another method of stimulation often resorted to (especially by the amateur) is what is called "spreading the brood." This practice should only be pursued in exceptional cases. There is great danger of "chilled brood" resulting. The novice ought never to "spread" brood at all till he gets experience and knows what's what. The spreading consists in taking outer frames and either shaving off the caps from the honey or abrading it so that it begins to run, and placing them in the brood-nest each between two frames of brood. The brood-nest being thus enlarged and the heat diffused, there is danger of the brood being chilled and thus killed. When spreading is resorted to at all it ought to be done by the expert and experienced apiarist.

Instead of scraping the caps off both sides of the frame of honey you wish to insert in the brood-nest, scrape but one side and place the frame, not in the middle or heart of the brood-nest, but on one side or the other of it, with the abraded surface next to the brood.

### EXTRACTED HONEY.

A subscriber writes:—"I have a few colonies of bees in box hives, and would like to get some extracted honey from them this summer. Would you be kind enough to tell me through the ADVOCATE how to proceed?"

It would certainly be a little difficult to get extracted honey from box hives. You might get "strained honey" in the manner described in a previous issue of the ADVOCATE, but that does not appear to be what you want. You want extracted honey taken with the honey extractor. This machine can only be used on hives with movable frames—that is, frames which may be removed from the hives without injury to bees or frames and returned. You must, therefore, transfer your bees from the old box hives to movable frame hives before you can use a honey extractor on them. There are several methods of accomplishing this, but as you appear to be a novice without experience in the modern arts of bee-keeping, you had better adopt a simple and easy method, as follows:—Have your movable frame hives ready, and when your bees swarm put the new swarms in the new hives. Then in 21 or 22 days after the first swarm from every hive issues, the young bees all being hatched out by that time, you can transfer bees and comb to a frame hive. Take the box hive containing the bees, invert it, place an empty box or hive the same size over it in natural position, closing up any openings where the hives meet, and then "drum" the bees out of the under into the upper hive. Take the latter with the bees and put it in a cool place, bottom up, having covered the bottom (now the top) with wire gauze or cheese cloth to confine them to the box or hive. Now take the old hive of comb, cut the latter out and fasten all that is left in the empty frames of the new hive. If you have a honey extractor the honey had better be extracted from the combs before you fasten them in the frames, or afterwards, as you may find it easier. Should you do it before you insert them you would need what is called a "comb basket," with perforated sides, in which to place the combs before placing them in the extractor.

Having transferred the combs, set your new hive on the stand of the old one, bring your box of bees out of the cellar or other place, and after opening the entrance of the new hive wide dump the bees down in front of it, and the work is done.



FAMILY CIRCLE.

THE STORY.

Betsey Somerset.

BY MARY E. WILKINS.

It was eight o'clock at night, and still the white linen window-curtains were not drawn. Hester and Letitia Lyman sat playing chess. Letitia had her back toward the street windows; Hester fronted them. Now and then Hester would pause, holding an ivory figure over the board, and stare with wide-open pale eyes, her thin lips parting before her quick breath, over Letitia's shoulder at the uncurtained window. Then Letitia's eyes, full of alarmed inquiry, would fasten upon her sister's face, until it withdrew its scrutiny from the window and turned again to the chess-board, knitting with reflections.

"What did you think you saw?" Letitia whispered. "Nothing," replied her sister, poisoning a white pawn in her pale pointed fingers. "I thought you looked as if you saw something." "It wasn't anything. There's nothing for you to get nervous about, Letitia."

"I am not nervous," said Letitia. And she turned her head and looked squarely at the window behind her. It was snowing hard outside. There was a strong wind which drove the snow before it in a fierce slant against that side of the Lyman house.

Shreds of snow clung like wool to the window-sashes; new flakes whitened out of the dark void against the panes, the wind shrieked, and Letitia's eyes started as if there were a presence to be seen at its back. Then she turned around. "There's nothing there," said she.

"I told you there wasn't," said her sister; and she made her move, which was quite disastrous to Letitia.

Letitia bent her sharp gentle face, and studied the chess-board as general the field of battle. She was quite reassured; her courage was always the reflection of her sister's. Hester's had to originate within herself, being whipped into being by her sense of Divine Providence. Nobody knew what a terror the curtainless windows were of a night to Hester and Letitia Lyman, and what self-control it required not to pull down these shades with sharp jerks and shut out the wide night full of dark possibilities. They had been the same terror to their gentle, nervous mother before them, and had been endured by her with the same loyal patience. Her husband, and Hester and Letitia's father, old Doctor John Lyman, had belonged to the stern old school of medicine. He had cauterized, and bled, and dosed with mercury, but the sharpest of all his sharp treatments had been the mental one for the weak whims and the nervous foibles of the women of his family. A wife and four daughters had old Doctor Lyman possessed, and every one of them delicate and hysterical, with her nervous system on the surface of life and exposed to all its suns and storms. Doctor John Lyman had dosed them all rigidly and impartially with a kind of spiritual mercury, which sometimes salivated their very souls, and had applied a ruthless spiritual cautery to all of their nervous weaknesses.

From her very childhood Mrs. Lyman had been afraid to sit in a lighted room after nightfall with the curtains up, and her four daughters had seemed to inherit her terror. Old Doctor Lyman would never allow a curtain to be drawn, and not one dared rebel even when he was away from home. The little timorous old mother and the four timorous daughters would sit meekly together while the dark night pressed openly at their curtainless windows, and their imaginations filled every pane with a ghostly or evil face.

Still Doctor Lyman's treatment had not been effectual. They sat with the curtains undrawn, but they still quaked. They swallowed his heroic medicines, but the ailments remained. Once in her childhood Letitia had had a terrific nightmare. Her choking screams aroused the whole family, and her father, lifting her head back with one hand, administered castor oil in aspoon which stretched her gasping mouth. Letitia had the nightmare again, but she never screamed.

Doctor John Lyman died before any of his family, but his will was still paramount after death and his evening lamplight still streamed unobstructed from his windows. His widow and the two younger daughters did not long survive him. Hester and Letitia had lived alone in the Lyman house with their one servant-woman for thirty years, and never pulled their curtains down at a night, and always been afraid.

They had tea at six o'clock, knitted or sewed until quarter of eight, then played chess until quarter of nine, then went to bed. That was their invariable rule. They read a great deal, and always solid and improving books, mostly by the earlier standard English writers, but they never read in the evening, as their eyes were weak.

To-night Hester won the game of chess, which was somewhat unusual. Letitia generally was victorious at chess, although her mind was not considered quite as active as her sister's. "Hester Lyman is the smartest," the village critics said. However, Letitia led her knights and bishops to victory upon the field of chess oftener than her sister.

Hester looked quite triumphant when she arose and put away the chess-board. Letitia did not look crestfallen, but abstracted. She glanced at the clock, then at her sister.

"I suppose we must go to bed," said she.

"Of course we must," returned Hester. "We can get up in about an hour."

"I wish we could sew upstairs."

"You know we can't, Letitia. It is too cold." Hester spoke in a sharp whisper. She gave an uneasy look at the door.

"It is shut. Letitia whispered back.

"I know it. Well, we must go to bed now."

Hester went to the door then, opened it, and called quite loudly and naturally: "We are going to bed now, Betsey. Please bring in the wood for the stove."

There was a harsh murmur in response from a room beyond. Then there was the dull clatter of wood, and presently a woman came in with her arms heaped to her chin with great knotty sticks.

Hester opened the door of the great air-tight stove, and the woman put the sticks in, pushing a refractory one with hoarse grunts.

"I guess that will hold till morning," remarked Letitia, and her voice had a curious ostentation of easy cheerfulness.

The woman made no reply. After she had put the wood in the stove she stood upright and stared past the sisters at a window. There was no fear in her eyes, but she looked as if she really saw something. Hester and Letitia followed her gaze.

"Do you see anything, Betsey?" whispered Letitia.

"Nothin' in're'n comin'," replied the woman. Her words had the inarticulate slur of the underbred New Englander, but her voice had a strange quality in it, a savage guttural intonation, which came with a sudden surprise like a sound from without the windows of civilization. She was squat, high-hipped, and flat-breasted; her large feet in her felt slippers were planted at sharp angles with each other below her full brown skirt. Her eyes were blue with the small sharpness of black ones. Her cheek-bones were high, her wide mouth calm and sullen, her complexion dry and dark. People said that Betsey Somerset had Indian blood in her veins. There was a tradition in the village of an Englishman of a great family who had come generations ago to the wilds of Canada, then wedded with a daughter of the savage Tropics, and himself became an Indian chief. There had been, according to the tale, a line of stalwart braves with half-English features bearing the English name, then had come an intermarriage with a captive girl from Massachusetts, and the English strain was strengthened, for her sons came southward and wedded wives of their mother's people.

Whether the tale was legendary or not, the suspicion concerning the old proud but wild blood had always clung to the Somerset family. Moreover, the characters of many of the members thereof strengthened this suspicion. The men were usually possessed of strong traits, yet were singularly adverse to the settled industry and thrift of the New England villager. Their lives were active but restless, impatient of the hammer, the anvil, and the plough, and given rather to the hunting of such poor game as was left in the New England forests, fishing, and braving the rapid river in their light boats. The current of the river was considered much too rapid for safe travel; scarcely any man in the village, except a Somerset, was daring enough to venture upon it.

In spite of the half-Indian which clung to his race as unstable bread-winners, and born with a slight slant off the fine equilibrium of civilization, Betsey's father had found a girl from one of the oldest and best families in the village to marry him. However, it had ostracized her from her kindred, and had been considered a righteous judgment, upon her that she lived miserably poor, since her husband would settle to no regular work, and died before she was middle-aged. She left one child, Betsey, who lived a half-wild life in almost primitive squalor and freedom with her father and an old aunt of his for a few years.

But the old aunt died, and then the father, before Betsey was twelve. Then Doctor John Lyman took her into his family to make herself as useful as she might, and to be trained up in a sober and industrious life. She was sent to school until she was fifteen, and she set her daily footsteps after the measure which her doctor John Lyman dictated. She usually obeyed him as faithfully as she was able, and then always as young obedience was of another sort, being, indeed, rather the proud and forced submission of a strong nature to its own environments than a weak yielding to another's will. She had rebelled only a few times, and then old Doctor John Lyman had, from his stern sense of duty and obligation, as well as the natural resentment of his own thwarted will, switched Betsey with a birch stick over her broad girlish shoulders.

But her untamable spirit always looked out at him from her keen blue eyes all through the blows, and she never uttered a cry. However, his difficulty in dealing with her never arose from the same cause as in the case of his own family: Betsey had no nervous weakness; she had no fear in her. She was not disturbed by curtainless windows at night, but rather liked to stand by them and gaze out into the wide mystery of darkness, as if in anticipation of some wild visitant, some ancient kin of hers, coming out. Betsey never had the nightmare, or she might have clinched her teeth against the castor oil.

Betsey was ten years older than Hester, and that made her quite an old woman. When Mrs. Lyman died, she had taken the attitude of a fierce foster-mother to the sisters. As she grew older she did not realize that they were following out so many years behind; she thought of them always as young girls. Their rule over her was nominal, hers over them was almost absolute. They were quite in subjection to her. The village people said they should think that the Lyman girls would be afraid of Betsey Somerset. Children were scared to go to the door of the Lyman house, less she should answer their knocks, and her dark stare would switch through the doorway instead of the mild visage of Hester or Letitia. The old woman had a hard reputation for surly tyranny in the village. But the two sisters, who had been born and bred under rule as under high atmospheric pressure, had realized no inconvenience from it, and no desire of emancipation until lately.

That night the sisters went up the spiral stairs with their flaring candle. Betsey piddled heavily out through the hall and the kitchen to her bedroom. For over an hour the large low-ceiled sitting-room was quite dark and silent, except for the red glow through the damper of the stove, the occasional snapping of the burning wood in the grate, and the tickling of the clock. Then a board creaked out in the entry under a healthy foot, a line of golden light showed under the door, then it swung open slowly. Hester Lyman's pale face set in a white cap was thrust around it; she held her candle aloft from her. Letitia peered around her shoulder, and she had her arms full of white cloth and flannel.

"Is it all right?" Letitia whispered close to her sister's ear.

"I think so," returned Hester, and she stepped boldly into the room; and Letitia slid after her, with her arms clasped around her white bundle.

Hester set her candle on the shelf, then she lighted the lamp on the table, and the two women sat down close to it and fell to work.

Hester laid little yellow garments, baby skirts, and slips upon new white linen, and cut others by them. Letitia sewed with nervous, trembling fingers, her spectacles over her gentle eyes.

They sat there and cut and sewed until long after midnight. Outside the storm raged steadily, the snow slanted higher on the window-panes. There was scarcely a clear space for any eyes without to spy upon the two old women sewing the little garments, with trembling haste, beside their midnight lamp; still, now and then they glanced fearfully around for them, and they always kept nervous watch upon the door, lest their old handmaid should enter and discover them.

Not hear a footstep alert for the slightest sound, yet they did not hear a footstep that night. Hester and Letitia had inherited it, it may have been, from savage ancestors, who had learned it from the swift padded tread of wild beasts, and practised it on the trail of their enemies through pathless forests; a footstep that avoided a creaking board in the floor as if it were a crackling twig in the woodland way. They did not hear the front door open, and shut as noiselessly as if it had been the skin-flap of a wigwag. They did not see two eyes at a window as watchful and wary as if their own were in an ambushade.

At half past one o'clock the sisters folded up their work, extinguished the lamp, lighted the candle, and crept softly upstairs directly after dinner, and set forth for the North village. They had been at the door and her eye at the window every night as they sewed, and would be for every night to come. The two old sisters sewed by night on their little wardrobe for two weeks, and their old servant watched them.

Then one sunny day Hester and Letitia put on their wraps directly after dinner, and set forth for the North village. They said to Betsey that they were going, but did not say for what purpose. They tried to appear quite easy and independent; but they did not deceive Betsey; she knew.

When she saw the two sisters going down the road to the railroad station she knew on just what errand they were bound. The snow was melting fast. The sisters held up their nice black skirts, and showed their slender ankles and their white stockings as they walked away. Their smooth little circles of gray hair could be seen under their black bonnets, their shoulders in their black shawls swayed primly as they walked. Betsey Somerset watched them out of sight, peering around a corner of a sitting-room window. Not a muscle of her face moved.

The sisters disappeared down the street and presently she heard the whistle of the train. She went away from the window then, and into her bedroom. There was a bedstead in there, and two chairs, a bureau with a gilt-framed mirror over it, and a little hair trunk.

Betsey got a key from under a pile of clothing in the bottom bureau drawer. Then she unlocked the hair trunk, and took out a small rosewood work-box, with a gilded knob on each corner for feet. It was one that Mrs. Lyman had given her when she first came to the Lyman house to live. She opened it, and took out a little flat parcel. She unfolded the white tissue paper carefully, and held up one long fair curl before her sewing eyes. Letitia had been almost a baby with a head covered with curls when Betsey Somerset came to the Lyman house. Letitia's curls had been the admiration of her life; every chance she could get she would twist soft spirals around her rough dark fingers.

When Letitia grew a few years older and the curls were clipped by order of her mother, Mrs. Lyman gave one to Betsey, who stored it away in her previous work-box as one of her life treasures.

(TO BE CONTINUED.)

THE QUIET HOUR.

To Myself.

Let nothing make thee sad or fretful,  
Or too regretful;  
Be still!  
What God hath ordered must be right;  
Then find it in thine own delight,  
My will.

Why should'st thou fill to-day with sorrow  
About to-morrow,  
My heart?  
One watches all with care; most true;  
Doubt not that He will give thee too  
Thy part.

Only be steadfast; never waver,  
Nor seek earth's favor,  
But rest.  
Thou knowest what God's will must be  
For all His creatures—so, for thee—  
The best.

Paul Fleming.

Blending Atmospheres.

(From "As it is in Heaven," by Lucy Larcom.)

Looking out upon the landscape from the upper slopes of a high mountain you cannot help seeing how the earth and the sky are always trying to blend with each other. They are like lovers who cannot stay apart. The breath of the valleys ascends in a soft mist that creeps up, up to the highest mountain ranges, and gradually shapes itself into clouds, or it lies in long, clinging bands about their bases, and makes their summits appear like islands in an ethereal sea; and the sunset tints the clouds above and the mists below with one loveliness of color, and the wind weaves them together so delicately that you cannot tell which is mist and which is cloud. The lines of the horizon gradually vanish; river and valley and mountain and mist intermingle and are fused in a glory behind and above them all, and greater than their own. A mountain sunset is like the marriage of the visible and the unseen, the new heaven and the new earth, the bride "descending out of heaven from God, having the glory of God."

And when it all fades away and the stars come out of the purple deeps above, the feeling of our human nearness to the infinite is intensified. In the loneliness of night on the mountain-top we comprehend something of our relationship to those heavenly spheres; we are at home on our own star, moving beside these radiant neighbors of ours through illimitable space.

The planets, which give to our evening sky its chief splendor, are but illuminated earth, of the same material as our own; as they shine for us, so we shine for them. We are one body and soul with them. The ether that throbs between seems to separate, while it really unites us. Every particle of this solid world thus becomes luminous; every pebble that we heedlessly tread upon is precious, for it is of the very substance of the stars. The soul of the star is its light that flows through it from some unguessed Beyond; and the soul of that light of all living light is Love; and love cannot be without a Being who loves. God is at the heart of all beings and of all things, seeking to bring them into unity with each other, the unity of His love and peace. Nature and humanity are one in Him, and refuse to be put asunder.

Since we, too, can love, we know that we are of God in some more vital way than rocks or trees, or than our own bodies. But Love has no contempt. She sees all things in God, and she feels the throbbing of her own heart, the Life of God in her life, beating back to her through what are esteemed the meanest of His works.

"A weed, to him who loves it, is a flower."  
And Love continually hears a sound as of human expostulation and entreaty coming up to her from tangled and neglected wastes, which, to other ears, are buried in savage silence. The earthly palpitations with a dim consciousness of its heavenly affinities and possibilities, which will sometime be realized.

The mute eloquence of Nature around us is often most pathetic—the beauty that is everywhere taking crude shapes, trying to find expression. Sometimes this pathos is made audible to us through sweet, half-developed voices. Waters murmur, winds whisper and moan, grass and blossom and leafy bough sigh back to each other, like children who cannot tell what they want. The dumb rock tries to write out its messages with hieroglyphic lichens. Sea-moss and fern conceal mystical secrets beneath their spreading fronds. The lowest forms of matters overflow with significance. Even the slimy ooze of the lake and the black coal in the mine hold an essence of purity within them which nurses the white life of the lily and kindles the sparkle of the diamond. Nothing is so dead that it does not seek utterance—that it does not strive to blend itself with some unattainable perfection above itself. The silence of Nature is an unuttered prayer for release—for reunion with her source.

For Nature is not yet released from bondage, nor can she be while we permit ourselves to be bond-slaves to her. We, whose birthright is the liberty of the children of God, desire a King for ourselves insist that Earth shall be our sovereign instead of our servant, binding ourselves down beneath her and with her in unnatural fetters, and so turning her palaces into dungeons. No wonder that the whole creation groans, being burdened.

(TO BE CONTINUED.)



MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES:—

For the past ten months that dread scourge, cholera, has been kept from our doors by vigilance of the strictest sort, and it becomes the duty of every housekeeper to aid the higher authorities in their efforts to prevent it invading our healthy and happy Dominion. As it is one of the epidemics generated by filth, our own homes should undergo a thorough cleansing and purifying inside and outside. Our wells of drinking water should be emptied and cleaned, and the ground surrounding them kept free from any matter that might contaminate the water. Ducks and fowls should not be allowed to dabble near them, nor cattle watered just in the vicinity; the slop-hole, or spot where dish-water and suds have been poured, should be allowed to dry, covered with fresh earth and sown with grass seed; the dirty water can be poured around fruit trees and growing plants, where the sun will quickly dispel anything that the roots of the plant does not absorb. Cellars should be cleaned of all vegetable matter and lime washed; fresh lime should be placed in all dark and damp corners, and the windows left open to ensure as much fresh air and sunlight as possible. Sinks should be scalded with boiling lye often, as wood ashes are plentiful in all farmers' homes, or sulphate of copper, or copperas, should be poured down them liberally at least once a week. Common salt is good if there is nothing else to be had. Now a word as regards the care of the outer and inner man. Serve no raw fruit unsound or unripe. See that your bread and butter are sweet and serve only good wholesome food, and do not forget a covered pailful of boiled water for the refreshment of the toilers in the harvest fields, instead of the draughts of water from the brook. Be particular to cook all cereals, such as oatmeal, cornmeal, rice and such like, as well as vegetables, well and thoroughly. Avoid vinegar as an article of diet. Keep the person clean by frequent hot baths, with plenty of soap. Take extra care that you do not get a chill by sitting in the dew or rain. Keep the feet dry, and avoid stimulants such as beer, wine or spirits, and do not overeat. These are only a few of the precautions that we can apply as our share of the prevention of the cholera, which always brings such terror in its train.

MINNIE MAY.

The advantages country girls have over city girls are many and great. The country girl has pure air, exercise and good food, the essential elements to constitute a foundation for the wear and tear of life. The country girl's first lessons are from nature and develop the faculties. Her educational advantages are not so great, but good literature is within the reach of everyone, and as a rule country girls are as well posted on current events as any city girl. She has far more time to cultivate her tastes, and not so many temptations to draw her from the nobler purposes of life.

How to Clean Dresses.

Get five cents worth soapbark from the druggist (about a teacupful). For one dress take half of it and steep in about one quart of boiling water for about half an hour or more, then strain through a cloth.

For a silk dress, while the liquid is warm, take a piece of white flannel and dip into it at intervals, and rub the silk or satin with it till it seems cleansed. When done, pull the material straight and hang it to dry. Do not iron either the silk or satin. If the dress is very much soiled, use clean liquid to rinse it, but do not use clear water for silk, or it will not stiffen up well.

For a woolen dress, dip the part to be cleansed, or the whole of it if needed, into the liquor. This can be rinsed in the same after washing, or in clean warm water. If very dirty, put the dress to soak in a tub in the liquor with more water added before cleansing or washing. The woolen goods should be pressed until it is quite dry.

Water in which potatoes have been boiled will cleanse delicate-colored woolen or worsted goods. The dress should be wet all over. Use no soap. Rinse in clear, warm water. Press while still damp. This will not injure the most delicate colors. —*American Cultivator.*

Mrs. Snooper—"That is a queer name the cook has for her beau."

Mr. Snooper—"What is it?"

Mrs. S.—"Copper Mine."

Mr. S.—"He's a policeman, I suppose."

Mrs. S.—"Yes, but what has that to do with it?"

Monsignor Capel was asked what struck him most forcibly in America, and he replied, "The precociousness of children."

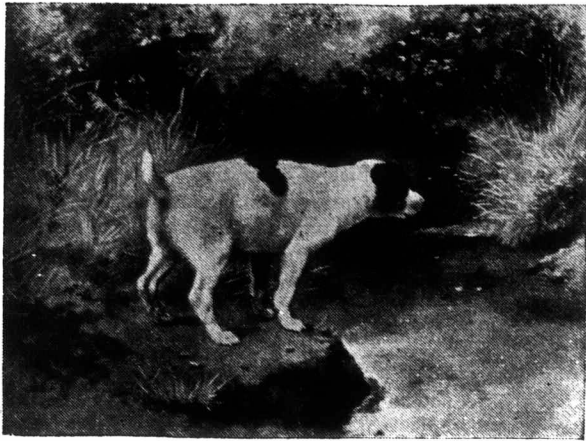
He says that while in Baltimore the Archbishop asked him to call on a lady. While making the visit a boy, aged four years, came into the room and his mother said:

"My son, speak to the Archbishop."

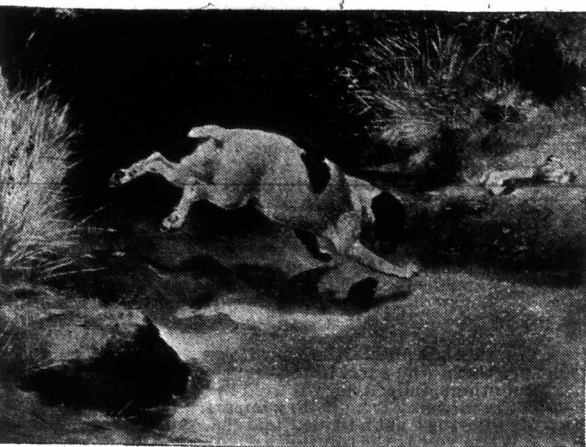
He obeyed readily, and holding out his hand, said:

"How do, Arch?"

GOING!



GOING!!



GONE!!!



Pawnbroker's Three Balls.

This sign was taken from that of the Italian bankers, generally called Lombards, who were the first to open loan shops in England. The greatest of the Lombards were the celebrated and princely house of the Medici of Florence. They loved gilded pills on their shield, in allusion to the professional virgin, from which they derived the name of Medici. Whence their agents in England and other countries placed their armorial bearings over their door, and others adopted their sign.

AMBIGUOUS.

She—How was your speech at the club received the other night?

He—When I sat down they said it was the best thing I ever did.—*Life.*

MEANT ALL RIGHT.

The Rev. Silas Sophtey—Ah, Thomas, that man tried to take me in about that wretched screw of a horse, but I'm not such a fool as I look, eh?

Thomas (the groom)—Noa, sir, that ye're not.

The Rev. Silas—Eh, what?

Thomas—Beg pardon, sir, I mean, ye're hadn't need to be.—*Punch.*

CONTRADICTION.

Englishman—"What will ye take?"

Frenchman—"I will take a drop of contradiction."

Englishman—"Contradiction, what on earth do you mean?"

Frenchman—"Vell, you put in ze whiskey to make it strong, ze water to make it weak, ze lemon to make it sour and ze sugar to make it sweet. Den you say, 'Here's to you!' and you take it yourself!"

Lawyer (to Irishman recently injured in a railway accident)—"Why don't you sue the company for damages?"

Mr. O'Shaughnessy (indignantly)—"Damages, indade! An' hain't I had enough of thim entoirely? It's the repairs I'd be afther now."

Member of Committee at Church Fair—"How much have we taken in to-night?"

Another Member—"Five hundred dollars, at least!"

Bystander (mournfully)—"And all the people."

A Few Remarks on Cooking.

BY FLOSSIE GRAHAM.

It may not be considered out of place to make a few remarks on the art, as also on the principles of cookery, for nearly all will acknowledge that cooking is not only an art but a science as well. To know how to cook economically is an art. Making money is an art. Saving money is an art. Now, there may be a lot of money made and lost in a kitchen. Does not many a hard workingman have his substance wasted in the kitchen? Does not many a shiftless man have his substance saved in the kitchen? A careless cook can waste as much as a man can earn, which might as well be saved. It is not what we earn as much as what we save that makes us well off. A long and happy life is the reward of obedience to nature's laws; and to be independent of want is not to want what we do not need. Prodigality and idleness constitute a crime against humanity, but frugality and industry, combined with moral virtue and intelligence, will insure individual happiness and national prosperity. Economy is an institute of nature, and enforced by Bible precept: "Gather up the fragments, that nothing be lost." Saving is a more difficult art than earning. Some people put dimes into pies and puddings where others only put in cents. The cent dishes are the most healthy. Almost any woman can cook well if she have plenty with which to do it. But the real science of cooking is to be able to cook a good meal or dish with but little out of which to make it. As to the principles of cooking, we must remember that water cannot be made more than boiling hot—no matter how much we hasten the fire we cannot hasten the cooking of meat, potatoes, etc., one moment. A brisk boil is sufficient, when meat is to be boiled for eating; put it into boiling water at the beginning—by doing so its juices are preserved. But if you wish to extract the juices for soup or broth, put the meat in small pieces into cold water and let it simmer slowly. The same principle holds good in baking; also make the oven the right heat and give it time to bake through, is the true plan. If we attempt to hurry it we only burn instead of cooking it done.

If you attempt the boiling to hurry,  
The food only is wasted.  
But in attempting the baking to hurry,  
The food, as well, isn't fit to be tasted.

Recipes.

CALVES' LIVER.

Have cut from a very fresh calf's liver as many slices as you will require, have them very thin; when ready to use cover them with boiling water, let them stand five minutes, dredge thickly with flour, then dust with salt and pepper. Put a tablespoonful of butter into the frying-pan, when hot put in the liver with three or four pieces of very thin bacon, brown on one side, then turn and brown on the other; add two-tablespoonfuls of stock, cover the dish and allow it to simmer for about five minutes. Serve at once from dish.

BAKED CUSTARD.

Beat four eggs without separating, add four tablespoonfuls of sugar, then gradually one quart of milk; stir until the sugar is dissolved; turn into a baking pan, sprinkle a little grated nutmeg over the top, stand this in a pan of water and bake in a moderate oven until you can plunge a spoon handle in the centre and it will come out perfectly clean. The watery, spongy condition comes from its being overbaked, consequently it is wiseto try frequently. At first the spoon handle will come out milky, but just as soon as it comes out clean take it from the oven. There is more danger of overbaking than underbaking.

EMPRESS PUDDING.

Boil a cup of rice in milk until it is very soft, then add two tablespoonfuls of butter, and boil a few minutes longer. Set aside to cool. Beat three eggs and stir in when the rice is moderately cool. Line a dish with puff paste, and then put in first a layer of rice then a layer of jam or fruit, then another layer of rice until the dish is full. Bake in a moderate oven about three-quarters of an hour. Serve either hot or cold, but if cold pour a boiled custard over it.

Fashion Notes.

The long Empire coat is fashionable for walking or driving and will also be utilized during summer as a dust cloak.

A novel circular cape has a cluster of plaits laid in its back, and a deep-pointed collar.

The favorite travelling dresses will be of silk, for many going to the Exposition will take no luggage to avoid trouble, and an uncrushable silk will be light, cool and stylish.

Waists continue to be lavishly trimmed. Lace is a favorite, but gorgeous passementerie of gold, silver, beads and silk are all used. Sleeves are shown in a score of styles—all large—some large only to the elbow.

The styles of bonnets are bewildering, from the dainty straw to the flimsy lace, gorgeous with flowers, Alsatian bows, ribbons of all widths and fancy gimps. There are styles for all sorts and shapes of faces, cheap, middling and dear.

The blouse holds its own as a useful, becoming and cheap garment, and they are made from the most costly silk, as well as the cheapest print. They are useful to wear out a skirt, the bodice of which is no longer passable.



UNCLE TOM'S DEPARTMENT.

Opportunity.

We used to go, a lot of us together. To pick the May pinks, when 'twas fittin weather; And I would tole her off from all the others—

Overwork.

BY A. M. C. Up with the birds in the early morning. The dewdrop glows like a precious gem. And beautiful tints in the sky are dawning.

The above poem by Ella Wheeler Wilcox gives a faithful picture of many a farmer's wife. She is worked to death. "Overwork," says Talmage, "is glorious when it's for one's friends or one's country."

Puzzles.

1-CHARADE. Little bits of poetry, little bits of vim, Make the posers' corner look so neat and trim.

Little bits of nonsense, turned into rhyme, Give us all the jim-jams, FIRST, it may, in time.

Little bits of leisure, taken up this way, Keep us out of mischief all the livelong day.

LAST and join our army, 'neath the flag of blue, There awaits a COMPLETE, stranger, here for you.

2-CHARADE. My FIRST a "state of equality is," And demands nothing amiss; To be my FIRST with cousins all, Would be a simple bliss.

My SECOND you'll find in Pakenham, A first and last of three; A note in music my THIRD is, A scale, too, it claims to be.

My WHOLE is considered useful, In rain and shining weather; Though used more for the latter, Can be two in one—together.

3-CHARADE. Oh! where, oh! where, is my namesake gone? Oh! where can Harry Beck be? He PRIME our "Dom" did once appear, But now his name we do not see.

THIRD fear this WHOLE boy is lost, Or strayed away from the fold; Oh! what SECOND awfully sad ending if so, For a puzzler worth his weight in gold.

Say, Henry, my LAST, if dead you're not yet, Come back, come back again; Do not from the "Dom" remain away, You'll suffer no losses, but plenty of gain.

4-CHARADE. Yes, this is a puzzle, tho' easy it is To those who excel in the art; But others, indeed, may it need to "quiz," 'Ere meaning from it they impart.

My FIRST is "not outside," and that you will see When you at the solution arrive. My SECOND stands forth as a "safeguard" to-day, Long for it did our forefathers strive;

COMPLETE I am what we should always avoid, Or do to our neighbors and friends; Yet, alas! among us too common it is, To benefit personal ends.

5-RIDDLE. In quarrel and agree, My head you will see, My last is an entrance or door; If you join these aright, They will bring to your sight A gem you've heard tell of before.

6-SQUARE WORD. My first is "a weight" by jewelers used, Though often by them much abused; "An old saying" for my next now take, And treasure it up for memory's sake;

My third friend Noah from the ark Let fly, some say 'twas after dark; My fourth's a man who left the farm, Carrying a sample case under his arm;

My fifth and last now forms a square, When camping out I'm always there.

7-ANAGRAM. Our friend and puzzler, Charlie Edwards, Has joined the DOM again. And I hope he'll never more desert us, For the want of time and brain.

I'm sure his charade, for such I think it was, (Although to it no title could I see,) Shows he is worthy of a position Of a very high degree.

8-ANAGRAM. "A patriot's son am I," he said, "A patriot am I, too." Gladly, my country, would I fight, Yes, or e'en die for you.

When war broke out they looked for him In the thickest of the fray; He was not there—ah! no, you see, This patriotic son ran away.

9-TRANSPOSITION. In a ONE close to a wood, TWO a stately THREE, Never did a thought of FOUR trouble him. Ah, me! As too near the edge he roved, Sir Reynard, from his bed, Stole upon him, grabbed him up, and with him quickly fled.

10-PUZZLE. I'm pleased you've come back, cousin Charlie, Our "Dom" was lonely while you were away; We miss you, of course (though you said we would not), And I hope now you mean to stay.

Your puzzles, indeed, were all so good, That over them we had to ponder; And when you left 'twas natural that we Should wish you again in our number.

You remember we were told last year, Not to depreciate our work; And the clever cousin who advised us Never intended that we should shirk.

Pray tell us who so bravely sought The "hatch" that shut you in; Such a noble deed ought not to escape The notice of FIRST KING.

And brought you safely up on deck, Where now you must remain, With "Uncle Tom," our captain, who Will guard you from slipping again.

So cousin, dear, go right along, In whole puzzling career, Next month our "group" will be produced, And I hope your portrait will appear.

Answers to 15th April Puzzles. 1- APRIL 2-Teakettle. 3-Martingale. 4-Pleasure. 5-Done, Don, Do. 6-Ed. A. Fair Brother. 7-Namesake.

Answers to 15th April Puzzles.

1- APRIL 2-Teakettle. 3-Martingale. 4-Pleasure. 5-Done, Don, Do. 6-Ed. A. Fair Brother. 7-Namesake.

Names of Those Who Have Sent Correct Answers to April 15th Puzzles.

Henry Reeve, Irvine Devitt, A. R. Borrowman, Lily Day, Ada Smithson, Morley Smithson, Josie Sheehan, Geo. W. Blyth, Mary Morrison, George English, Jessie Cumberland, George Rogers.

The Shadow on the Moon.

As I was talking one evening with a bright, intelligent boy of fifteen about some of the more familiar astronomical subjects, he surprised me greatly by a question that he asked. My surprise arose from the fact that I knew the boy to be a good student, who stood well in his classes, and that he should be ignorant of so simple a thing as that about which he asked the question seemed almost incredible.

Since then, however, I have found that there is a general misapprehension of the subject, not only among boys and girls, but among grown people, and it is the purpose of this short article to give a simple explanation of it.

Here is the question asked by my young friend: "We are told that one proof of the earth's spherical form is the round shadow that it throws upon the moon, but when the moon is half 'full' the edge of the shadow is straight, and when it is three-quarters 'full' the edge of the shadow is concave. Now, why is the shadow not always convex, as it is when the moon is seen as a crescent?"

The boy thought, as you see, that the moon's phases are caused by the interposition of the earth's shadow. A little reflection will show you that this is simply impossible. Let me see if I cannot describe the phenomenon so that you may draw a mental picture of it.

You are standing, we will say, on a big ball out in space. Away off yonder is another big ball, glowing with light. Between you and the glowing ball is a smaller but non-luminous one. As the latter emits no light of its own, the side that is toward you is dark and of course you cannot see it.

That is the phase called the "new moon." The ball on which you stand is the earth, the glowing ball is the sun, and the dark ball between you and the sun is the moon. The other side of the moon, the side toward the sun, is bright, for the sun is shining on it. At this time the three balls are almost in a straight line with each other.

In a few days, the moon, which is perpetually revolving around the earth from west to east, moves above the straight line high enough for you to catch the first glimpse of its illuminated side, and you see it as a thin crescent. Every day it moves higher, and you see more and more of its bright side.

When it reaches a point directly overhead you see one-half of that side, which is one-fourth of the sphere of the earth from the sun, the bright part becomes convex and the dark part concave, of course.

When it gets down far enough on the side of the earth away from the sun to be in a line with those two bodies, you see all of its illuminated side, and then it is "full" moon.

As it continues in its course around the earth, the same phases are passed through, but in reverse order.

It is very plain, then, that the shadow of the earth does not cause the moon's phases. Sometimes, however, the moon, in its monthly revolution, moves in the same plane as the earth's orbit and gets into its shadow. Then we have a lunar eclipse. At no other time does the earth's shadow touch the moon.

To make this still plainer, let me remind you that when the sun is in the west the earth's shadow must necessarily be thrown out into space toward the east. But the crescent moon is seen in the west, you know—how, then, could it be caused by a shadow that is away off in the east, on the other side of the earth?—[Worthington's Magazine.]

Good Night.

There is a tender sweetness about some of our common phrases of affectionate greeting, simple and unobtrusive as they are, which falls like dew upon the heart. Good night! The little one lisps it as, gowned in white, with shining face and hands and prayers said, she toddles off to bed. Sisters and brothers exchange the wish: parents and children: friends and friends. Familiar use has robbed it of its significance to some of us; we repeat it automatically without much thought. But consider. We are as voyagers, putting off from time to time upon an unexplored sea. Our bark of life set sail and go onward into the darkness; and we, asleep on our pillows, take no such care as we do when awake and journeying by daylight. Of the perils of the night, whatever they may be, we take no heed. An unslumbering vigilance watches over us, but it is the vigilance of one stronger and wiser than we, who is the Eternal Good. Good and God spring from the same root, are the same in meaning. "Goodby" is only "God be with you." "Good night" is really "God night," or "God guard the night." It would be a churlish household in which these gentle forms of speech were ignored or did not exist. Alike the happy and the sorrowful, day by day, may say "Good night," —Harper's Bazar.



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Six head Mares and Geldings, rising 3, by imported Hackney stallion Brilliant (1434); one Mare, rising 3, by imp. Hackney stallion Young Nobleman; one Mare, rising 3, by imp. thoroughbred stallion Mikado; three head, two Mares, one Gelding, rising 4, by imp. Yorkshire coach stallion Cleveland Swell; one Mare, rising 4, by imp. coach stallion Shining Light; one Mare, rising 4, by thoroughbred stallion Superior; one Mare, rising 5, by trotting stallion Valentine; two head Ponies, matched pair.

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The above horses will be on view for trial and inspection at the Repository, Monday previous to sale. Catalogues can be had on application to Messrs. Cobbold & Shadwell, Grand's Repository, Toronto, or Mossom, Boyd & Co., Bobcaygeon, Ont. Sale sharp at 10.30. 334-a-om

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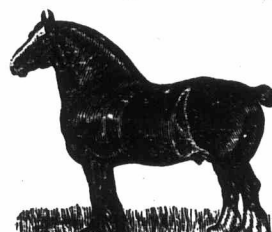
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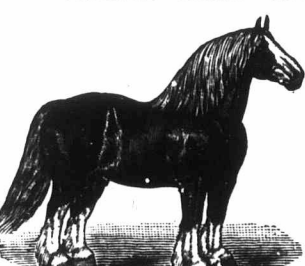
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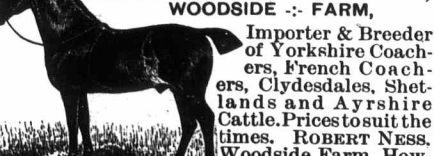
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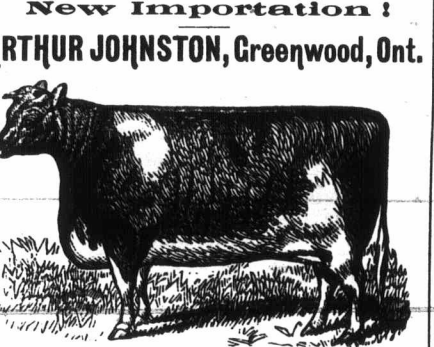
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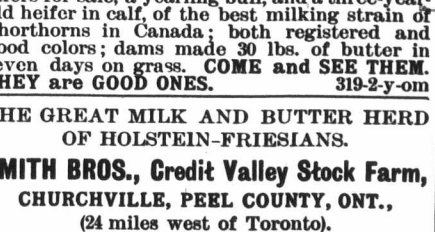
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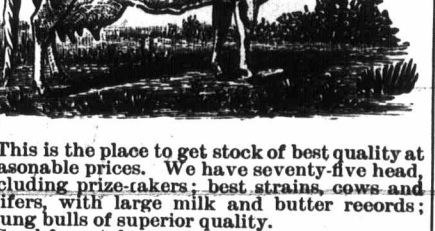


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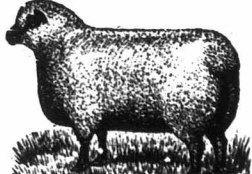
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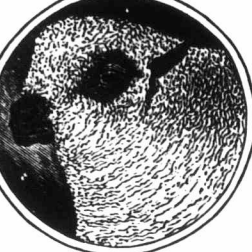
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Clydesdales, Shropshires and Berkshires. Choice young registered stock for sale. Telephone office, Innerkip, Farm 1 mile from Innerkip Station on C.P.R., and 6 miles from Woodstock, G.T.R. WHITEHEAD BROS., Innerkip, Oxford Co., Ont. 333-2-y-om

OXFORD-DOWN SHEEP HENRY ARKELL, Farnham Farm, Arkell P.O., Ont., Importer, Breeder & Dealer in High-class OXFORD-DOWN SHEEP First importation in 1881. An importation expected in July. 315-winner Stock for sale at all times including a number of stallions, over all breeds. 334-2-y-om

DORSET HORN AND SHROPSHIRE SHEEP, Jersey and Holstein Cattle, SHETLAND PONIES, CHESTER PIGS. ALL THOROUGHBRED. JOSEPH STRATFORD, G. T. R., Brantford, Ont. 325-2-y-om

STOCK GOSSIP. Messrs. Cobbold & Shadwell, V.S., announce in this issue of the ADVOCATE a special combination sale of superior horses at "Grand's Repository," 33 Adelaide Street, Toronto, on Tuesday, May 23rd. Thirty head of valuable horses (including a number of stallions) are from Messrs. Mossom, Boyd & Co., Bobcaygeon, in addition to consignments from other gentlemen. The list embraces Suffolk Punches, Clydesdales, Hackneys, Yorkshire Coachers, as well as cobs and saddle horses. Write for a catalogue to either Cobbold & Shadwell or Mossom, Boyd & Co. This sale should attract a large gathering of buyers.

Mr. F. A. Fleming writes us as follows: "Since the beginning of February I have sold to Ontario farmers the following young Herefords: To Mr. D. H. Clemens of Washington, Brant Co., the yearling heifer Miss Downton; Mr. P. A. Marshall of Manheim, Waterloo Co., the yearling bull Prodigal; Mr. Caleb Rawlings, Ravenswood, Lambton Co., the yearling bull Graphic; Mr. G. A. Elliott, Porter's Hill, Huron Co., the yearling bull Baron Broady 2nd; and to Mr. John Gilchrist, Oro, county of Simcoe, the yearling bull Wilfred. All first-class animals and registered. I have had more letters enquiring for good Herefords this year from Ontario farmers than ever before. Prices are improving, and all the sales I have made were for cash. See Mr. Fleming's advertisement on page 195.

EUROPEAN ADVERTISEMENTS.

Shropshires, Shorthorns, Shire Horses, Yorkshires The Ruyton-11-Towns flock always winning at R. A. S. E. and other shows. Last win: The Champion Cup at the Royal Liverpool, Manchester and North Lancashire Show for the best ram, all ages and all breeds. Shorthorns - Winning at R. A. S. E., etc., etc. Herd established over 50 years. Yorkshire Pigs of good pedigree. Easy distance from Liverpool. Meet trains at Baschurch, G. W. R., by appointment. Address: RICHARD BROWN, Ruyton-11-Towns, Shropshire, Eng. 322-2-y-om

LINCOLN SHEEP

I always have for inspection and sale a large flock of pure Lincoln Longwool Sheep, including many prize-winners, having taken 80 prizes the last two years at the Royal and other shows, for both rams and ewes; also the first for the best collection of specimens of any breed for wool at the Royal Windsor show last year, which proves the character of this flock, which is most famous for their great size and 120 years' good breeding. Also breeder of White Yorkshire Pigs. Address: HENRY DUDDING, Ribby Grove, Gt. Grimsby, Lincolnshire, Eng. 319-2-y-om

LARGEST SHEEP EXPORTER.

1,272 Pedigreed Sheep, including many winners of all breeds, landed at Quebec without loss, July 26th, 1892, by E. GOODWIN PREECE, Live Stock Exporter, Shrewsbury, Eng., who has thorough personal knowledge of all the best British flocks, herds and studs, great experience in shipping and the privilege of obtaining choicest specimens of any breed for show or breeding. American buyers supplied with selected stock at lowest rates. Those visiting England conducted to inspect the leading stocks, to compare merits and prices before buying, also assisted in selecting and shipping FREE OF CHARGE. (5 commission paid by seller.) Flock-book certificates and all documents supplied, as required by U. S. Government. Highest references from leading Canadian and American importers supplied 1889, 1890, 1891, 1892. All buyers should communicate. Information free. 318-2-y-om

SHROPSHIRE. Having reduced my herd of cattle by recent sales, I intend visiting Great Britain in the spring to make an importation of sheep. To make more room I offer within the reach of all 23 shearling ewes and a few rams of the very best breeding, at a great reduction. Shorthorns will still be bred and for sale at "Greenhouse Farm" of the very best Scotch type and quality. Write or come and see them. W. B. COCKBURN, ABERFOYLE, ONT. 320-2-y-om

IMPORTED SHROPSHIRE

My stock was selected by myself, and consists of Shearling Ewes and Ewe Lambs from the leading flocks of England, and of the highest quality and breeding. Stock of all ages for sale. C. W. GURNEY, Paris, Ontario. 327-y-om

To Stockmen & Breeders.

LITTLE'S PATENT FLUID NON-POISONOUS SHEEP DIP AND CATTLE WASH.

For the destruction of Ticks, Lice, Mange and all Insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc. Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy and healthy. The following letter from the Hon. John Dryden, Minister of Agriculture, should be read and carefully noted by all persons interested in Live Stock: "MAPLE SHADE" HERDS AND FLOCKS, BROOKLIN, ONT., Sept. 14th, 1890. DEAR SIR, I cannot afford to be without your Little's Sheep Dip and Cattle Wash. It is not merely useful for sheep, but it is valuable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested. I have ever tried it; it is also an effectual remedy for foul in the feet of Cattle. I can heartily recommend it to all farmers and breeders. DRYDEN. Seventeen Gold, Silver and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world. Sold in large tins at \$1.00. Special terms to Breeders, Ranchmen and others requiring large quantities. Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc., to ROBERT WICHTMAN, DRUGGIST, OWEN SOUND, Ont. Sole Agent for the Dominion. 320-2-y-om

H. J. DAVIS, Woodstock, Ont., Breeder of High-class Large Berkshire and Imp. Large White Yorkshire Swine, Short-horn Cattle. - A grand lot of young pigs ready for shipment of both breeds; also boars fit for service from prize-winning stock. Stock shipped to order. Satisfaction guaranteed. Young Bulls generally on hand. 332-y-om

BERKSHIRES.

J. G. SNELL & BRO., Edmonton, Ont. A few of our best sows now have young pigs, and we have a grand lot of sows to farrow through April and May. Most of our young pigs this spring will be imported "Enterprise" [1878], winner of first prize in the aged class at the Toronto Industrial three years in succession. "Enterprise" is, we think, the best Berkshire boar ever imported to Canada. He is six years old and is still as straight and smooth as when at a year old. We are now booking orders for young pigs. Boars and sows mated not akin. Write for prices. 334-a-om

S. COXWORTH, CLAREMONT, ONT., Breeder and Importer of Berkshire Hogs. Young stock of different ages constantly on hand. Pairs supplied not akin. Stock won at leading shows in 1892-18 first, 11 second, 7 third, including Toronto, Montreal and Ottawa. Prices moderate. Satisfaction guaranteed. Station and Telegraph Office - CLAREMONT, C. P. R. 332-y-om

ISRAEL CRESSMAN, New Dundee, Ont. Breeder of Large English Berkshires. Young Hogs always on hand; got by imported stock. 328-y-om

J. C. SNELL, Edmonton, Ontario.

THE MARKHAM HERD, LOCUST HILL, ONT. (Farm one mile from Locust Hill St., C.P.R.) Registered Improved Large Yorkshire, Berkshire and Suffolk Pigs. Stock selected from the best herds in Canada. Am booking orders for Spring Pigs. - LEVI PIKE, Locust Hill, Ont. 328-y-om

IMPROVED LARGE YORKSHIRE PIGS. Thirty-five choice Breeding Sows from the best English breeders. Young stock of all ages. Stock supplied for exhibition purposes, registered and guaranteed to be as described. Personal inspection solicited. J. E. BRETHOUR, Burford, Brant Co., Ont. 327-y-om

J. M. HURLEY & SON offer for sale pedigree Improved Large Yorkshire Pigs of both sexes. Herd founded in 1887. OUR AIM is to make our pigs advertise us. 321-2-y-om

FIRST SWEEPSTAKES HERD - OF - IMPROVED YORKSHIRES IN CANADA, selected from the well-known herds of the Earl of Ellesmere, Prescott Union, and C. E. Duckering, England, by James Main, who is considered one of the best judges of pigs in America; also one imported sow and several other Canadian-bred sows and boars of the well-known herds of Sanders Spencer and F. Walker Jones, England. REGISTERED SOWS AND BOARS MATED NOT AKIN. JOSEPH FEATHERSTONE, P.O. and Telegraph, PINE GROVE FARM, 321-2-y-om STREETSVILLE.

THE OXFORD HERD OF POLAND CHINAS. W. & H. JONES, Mt. Elgin, Importers and breeders of Poland Chinas. Young stock for sale sired by The Imported and Show Boar, "Elias Moor," and other good boars out of sows of equally as good breeding. 329-2-y-om

CANADIAN BLACK BESS HERD

Of Registered Poland-Chinas - A choice lot of young pigs for sale. Elected - 48 - the great ribbon winner at the head of herd, assisted by Rht's Chief, who weighs 1,000 pounds. Correspondence or inspection of herd solicited. J. J. PAYNE, Chatham, Ont. 332-y-om



Improved PEDIGREED LARGE YORKSHIRES I am booking orders for spring pigs from imported and home-bred sows at reasonable prices. J. H. S. BARBOUR, King P. O., Ont. 318-2-y-om

E. D. GEORGE

PUTNAM, ONT., Importer and Breeder of Ohio Improved Chester White Swine The largest and oldest established registered herd in Canada. I make this breed a specialty, and furnish a good pig at a fair price. Write for prices. 317-y-om



TAMWORTH SWINE, SHROPSHIRE, CLYDESDALES AND SHORTHORNS.

John Bell, Clydesdale Farm, Amber, Ont. A number of prize-winning Pigs in pairs, unrelated, from imported stock bred by the best breeders in England. Orders booked. Fifteen Breeding Sows due to farrow during spring. Shropshires bred from stock imported by such importers as John Miller & Sons, Brougham; R. Cauticot, Tyrone, etc. A few of the best Clydesdales on the continent - The Granite City and Eastfield Chief at head of Stud; also Shorthorns of choice breeding. Correspondence solicited. Visitors welcome. Milliken Station (Midland Division), G.T.R. 325-y-om

FARMERS, READ THIS

We will pay extra for fat pigs bred from Tamworth and Improved Yorkshire boars, as they are worth more money to us. We have imported a large stock of these pigs, and have on hand a choice selection of imported and home-bred boars and sows. Write us for prices, which are as low as they can be made, this being a business entirely of a secondary consideration with us, our first object being to supply the trade with an A 1 article in bacon, and we are satisfied that these are the breeds that pay both the feeder and the packer. Send in your orders quick and get a good in-pig sow, or a boar to use on grade sows.

JAS. L. GRANT & CO. Ingersoll, Ont. 320-2-y-om

HAZELTON FRUIT & POULTRY FARM

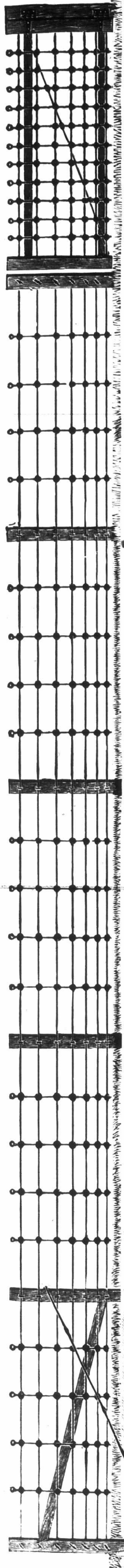
PLYMOUTH ROCKS Unsurpassed in America. Eggs, \$2.00; guaranteed. Elegant Illustrated Catalogue for \$3 gives all particulars and information. Sent free. C. W. Eckardt, Ridgeville, Ont. U. S. BRANCH - Brookside Poultry Farm, Columbus, N.J. 327-y-om

Farmers, Attention! We offer you from the best stock that money could produce, eggs from the following select strains of the great egg-producing varieties: - Black Spanish, Black Minorcas, Brown Leghorns, Light Brahmas, Plymouth Rocks, Silver Grey Dorkings. We guarantee a hatch or orders duplicated. Eggs \$1 per setting. THOS. PEARCE, Mt. Brydges, Ont.; W. L. BROWN, 176 Wharmcliffe Road, London West, Ont. A pen of Light Brahmas and Black Minorcas for sale at a bargain; four hens and cockerel in each; also Brown Leghorn cockerel. 333-b-0

TRY OUR NEW! STEEL GANG CHEESE PRESS All kinds of Cheese and Butter Factories furnished with the latest machinery. THE "MONARCH" ENSILAGE CUTTER (Carries any length, angle or direct). Full line of Fodder Cutting Machinery - Horse Powers, Grinders, Root Pulpers and Agricultural Implements. Write for prices. Satisfaction guaranteed. Address: RICHARDSON & WEBSTER, 331-2-y-0 ST. MARY'S, ONT.







THE LOCKED-WIRE FENCE CO., INGERSOLL, ONT.

Branch Office: 111 KING ST., LONDON, ONT.

The accompanying Cut represents five panels of fence and gate of the LOCKED WIRE FENCE. Each panel represents one rod (16 1/2 feet), 7 wires, 4 steel stays. The crimp in the wire, in combination with steel clamp, when locked acts as a spring, adjusting the fence to heat or cold.

—PERFECTLY— Safe, Stronger, Better AND CHEAPER than any other fence.

This, without doubt, the best fence on the American continent.

All persons having wire fences erected in the past, should use the stays and steel clamps of the Locked Wire Fence Co. on them. The crimp consumes all the slack, makes the fence tight, and adds over 100 per cent. to its value at a very small cost.

We desire to inform the farmers and public generally that we are prepared to supply this fence throughout the Dominion of Canada.

THE BEST FENCE MADE FOR Farms and Railroads.

FARM RIGHTS FOR SALE.

Agents Wanted In every Township. Send for circulars and particulars.

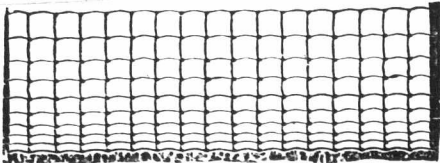
Address: THE LOCKED-WIRE FENCE CO., INGERSOLL, ONT. 141 KING ST., LONDON, ONT.

UN-NERVED, TIRED People and invalids will find in CAMPBELL'S QUININE WINE A pleasant restorative and appetizer. Pure and wholesome, it has stood the test of years. Prepared only by K. CAMPBELL & Co., Beware of Imitations. MONTREAL. 334-2-y-om

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WISE NAME AND WISE ACTION. The first Page Fence sold in Ohio was eighty rods, to D. W. Wise, of Delta. After all these years he came to the factory January 11th, bought and carried home three hundred rods, and contracted seven hundred rods more for his neighbors. A foolish man would have tried cheap imitations.

PAGE WIRE FENCE CO. OF ONTARIO, LTD., WALKERVILLE, ONT. 325-y-om

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your house with UNICORN Ready Mixed Paint. None better in the world. Every tin guaranteed pure. Tell your dealer you must have them. MANUFACTURED ONLY BY A. RAMSAY & SON, - MONTREAL. Established 1812. Leads, Colors, Varnishes, etc. 331-y-om

Bee-Keepers' Supplies NEW FACTORY AT Peterborough, - Ont. STANLEY RIGHTMYER Manufacturer and Dealer in A Full Line of Supplies Planer Saws used only. Catalogue for postal. 334-e-o

5,000 ACRES OF LAND FOR SALE FROM \$5 TO \$10 PER ACRE. British Columbia, THE CALIFORNIA OF THE DOMINION

This is a young and rising country, with productive powers for grain, fruits, vegetables, stock and poultry raising, second to none in America. We offer lands on the Islands of the Gulf of Georgia and on the water front of Mainland, where there are no cold winters, no snow and no frost, with good facilities for marketing. Settlers located on Government lands. For further particulars apply to MACKINNON, MACFARLANE & CO., 39-1-y-om P. O. Box 926, VANCOUVER, B. C.

GROUND OYSTER SHELL & BONE MEAL For Poultry. For Sale in quantities to suit purchasers. JAS. DUNLOP, 329-f-om HAMILTON, ONT.

Sweepstakes at Chicago, 1891 B. and W. P. Rocks, W. and S. Wyandottes, W. and B. Lezbons, and Bronze Turkeys, 399 Toms and Hens, sired by 44 and 47 lb. 500 Cocks, pairs, trico and pens, mated for best results. Valuable illustrated program, free. F. M. MUNGER, DeKalb, Ill. 325-2-y-om

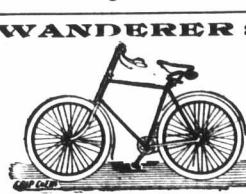
"For Years,"

Says CARRIE E. STOCKWELL, of Chesterfield, N. H., "I was afflicted with an extremely severe pain in the lower part of the chest. The feeling was as if a ton weight was laid on a spot the size of my hand. During the attacks, the perspiration would stand in drops on my face, and it was agony for me to make sufficient effort even to whisper. They came suddenly, at any hour of the day or night, lasting from thirty minutes to half a day, leaving as suddenly; but, for several days after, I was quite prostrated and sore. Sometimes the attacks were almost daily, then less frequent. After about four days of this suffering, I was taken down with bilious typhoid fever, and when I began to recover, I had the worst attack of my old trouble I ever experienced. At the first of the fever, my mother gave me Ayer's Pills, my doctor recommending them as being better than anything he could prepare. I continued taking these Pills, and so great was the benefit derived that during nearly thirty years I have had but one attack of my former trouble, which yielded readily to the same remedy."



AYER'S PILLS Prepared by Dr. J. C. Ayer & Co., Lowell, Mass. Every Dose Effective

WANDERER CYCLES The wheels for Canada Light, Strong, unbreakable. Unexcelled for easy-running qualities. Manufactured by the Wanderer Cycle Company, 22 and 24 Lombard St., Toronto. Send for Catalogue. 328-1-om



RAPE SEED GENUINE DWARF ESSEX Tested by Prof. Shaw, Ontario Agricultural College. 12c. lb., or \$6 bush. of 60 lbs. George J. Thorp, Seedsman, Guelph, Ont. 333-d-om

CHOICE MANITOBA FARMS FOR SALE Apply to JOHN WELD, London, Ont.

Our Perfection Spraying Outfit is just what you are looking for.



The only effective means of destroying the Aphid Cankerworm, Apple Curculio and other insects that are so injurious to Orchards and Gardens. We manufacture the Most Complete line of PUMPS and WINDMILLS, both for pumping water and driving machinery, of any firm in Canada. It will pay you to send for large illustrated catalogue before purchasing elsewhere. ONTARIO PUMP CO., Ltd. (In Lq.), Mention this paper. (329-f-om) Toronto, Ont.

YOU CANT KILL POTATO BUGS SO CHEAPLY & EFFECTIVELY AS BY USING OUR SPRAYING PUMPS WRITE FOR OUR FREE ILLUSTRATED CATALOGUE AND LET US TELL YOU ALL ABOUT IT.

EVERY PROGRESSIVE FARMER WILL SPRAY THIS YEAR - WATCH THIS SPACE NEXT MONTH - IT WILL CONTAIN SOMETHING YOU OUGHT TO KNOW - W. E. SAUNDERS & Co. 352 CLARENCE ST LONDON, ONT. 329-f-om

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

HOW CURBED HORSES CAN BE MADE VALUABLE.

Many valuable horses are rejected by buyers, because of a curb which can easily be cured. The curb is the result of a strain, and can be removed by using Dick's Blister according to the directions on each package.

Thomas Speirs, of Bradwardine, Man., passed through the city last week with a young bull and a heifer purchased from A. Johnson, Greenwood, Ont. The bull, Royal Don, is thirteen months old, bred by Alex. Campbell, Aberdeenshire, Scotland, got by Royal James (54972), out of Lady Kintore, by Gravesend (46661). We will give further particulars of this importation in a future issue.

R. D. Foley, of Manitou, Man., has recently imported a two-year-old bull to head his short-horn herd, and a right good one he has got in Defiance, bred by John Miller, Markham, Ont., sired by his old show bull (imp.) Vice Consul 1132, one of the best bulls on the American continent to-day. Defiance is a good, thick-fleshed roan, particularly good on the fore-quarter, with a well-sprung and deep rib, well-filled behind the shoulder, and, though a wee bit light behind, is a square, low set bull that cannot well fail to improve Mr. Foley's herd. We expect to see him make a record in the show ring at the Winnipeg Industrial next July. The annual meeting of the American Southdown Breeders' Association will be held at Springfield, Illinois, on Wednesday, May 31, 1893, at 10 o'clock a. m. At this meeting the regular annual election of officers and other necessary business matters of the Association will receive attention. It is proposed that this regular meeting shall, after the transaction of such necessary business as may seem needful, adjourn to again meet in Chicago, on September 27th—during the period fixed for the sheep exhibit at the World's Columbian Exposition—at which time there will be presented papers from leading breeders, and an effort will be made to have a very full discussion of matters in the interest of our favorite breed of sheep; at this meeting a full attendance is very desirable. Special attention is called to the following offerings at the World's Columbian Exposition: The Columbian Exposition offers \$1175.00; the American Southdown Association, from their savings, \$1250.00; and the proprietors of the Cooper Sheep Dip, Galveston, Texas, \$300.00 in silver cups—making a total of \$2725.00 that may be won by Southdown breeders.

We take the following note from the British Live Stock Journal, of London, Eng.:

HACKNEYS FOR CANADA.—Mr. James A. Colman has just completed the selection and purchase of a splendid lot of Hackneys for the stud at Hillhurst, Canada, one of the oldest and best on the American Continent. Two stallions are included, the first of these being Hayton Shales (Vol. XI.), purchased from Mr. W. G. Whalley, Hayton. He is an animal of very high promise, both as regards personal merit and breeding. Foaled in 1891, he is a bay, bred by Mr. Thomas Wardell, Barnby Moor, Yorks; got by Pioneer 1088, from Polly 4559, by Young Fireway 1367. The other stallion is Indelible 1320, bay, foaled in 1891, bred by Mr. Thomas Wardell, Barnby Moor, Yorks; got by Star of the East 798; she has won a number of prizes, having been h.c. in London, second in harness at Pocklington, and first as a three-year-old. Nina is in foal to Danegelt. Cameo is a chestnut filly, foaled in 1892, bred by Mr. R. Bridgman; got by Danegelt 174, dam Lady Millington 2945, so that she is half-sister to Vina. She was a first-prize winner at Skipworth and second at Melbourne. Canny-maid is another chestnut yearling, got by Cannymann 2882, day May Flower 768, by Lord Derby II. 417, this mare having been dam of Sensation VI., second to General Gordon at the London Show. Her breeding, it will be seen, is excellent, and she is, moreover, a very well-shaped filly, with good action. The three-year-old Miss Dales is a bay, bred by Mr. Thomas Harker, Cliff Dales; got by Pioneer 1088, dam Miss Dale 1180, by Denmark 177, a frequent prize-winner. This filly is full of quality and is very stylish. The last two were purchased from Mr. Heaton, Ferryhill. One is Lady Lynn 2934, foaled 1886, a roan by Great Shot 329, dam Lady Walpole 2979, by Confidence 136, and in foal to Agility, and the other is Miss Baker 4371, foaled 1889, bred by Mr. James Case, Cockthorpe, got by Ruby 1342, dam Betsy Baker 1411. This filly has beautiful action, going all round like clockwork.

NOTICES.

Many farmers who sowed rape last year were badly deceived in the seed, a worthless hybrid variety having been sold for the true Dwarf Essex. G. J. Thorp, of Guelph, who advertises rape seed in this issue, has had a sample of his seed tested in the greenhouses of the Experimental Farm, and though fully two feet high, the plants show no indication of blossoming. The bird rape sown at the same time is in blossom, and the hybrid variety is just beginning to push up seed stalks.

Mr. Manson Campbell, of Chatham, Ont., advertises his celebrated Chatham Fanning Mills in this issue. Several important improvements have been added, and the mills are having a great sale. Special attention has been paid to the cleaning of alsike, clover and black rye and marrowfat peas. Below are given two out of the many testimonials which this firm have received: Ridgetown, Ont.

MR. MANSON CAMPBELL. DEAR SIR: I have used the Chatham Fanning Mill to perfect satisfaction in all kinds of grain, with bagging attachment combined, and I can highly recommend it as far exceeding any mill I have yet seen. In a word, I am highly pleased with it. Yours, truly, CHAS. ALDRICH, MORDEN.

Hawley, P. O., Lennox Co., Ont., MANSON CAMPBELL, Chatham. DEAR SIR, I am extra well pleased in every respect with your Fanning Mill. Yours truly, FRED. W. CREIGHTON, Township of Fredericksburg.



STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

The following special premiums will be offered by the American Southdown Association, at the World's Columbian Exposition:

Table with columns for animal type and age, and premium amounts. Includes entries for Rams, Ewes, and Pigs.

These special premiums are offered only on compliance with the following conditions.

I. That the animals competing for said premiums shall be recorded in the American Southdown Record at the time of entry for the exhibition...

II. That the premiums will be paid on the presentation of certificate from the proper officer of the World's Columbian Exposition...

The following special premiums will also be offered at the Fat Stock Show, to be held in connection with the World's Columbian Exposition.

Table with columns for animal type and age, and premium amounts. Includes entries for Wethers.

These special premiums are offered only on compliance with the following conditions:

I. That the sires and dams of the animals competing for said premiums shall be recorded in the American Southdown Record at the time of entry for the exhibition...

II. That the premiums will be paid on the presentation of certificate from the proper officer of the World's Columbian Exposition.

MESSRS. S. J. PEARSON & SONS' SALE OF SHORTHORNS, HELD AT MEADOWVALE, ONT.

Anything but auspicious weather greeted the morning of the 12th of April, which was the date that the above gentlemen had fixed as that on which to hold their dispersion sale of Shorthorns. However, the rain did not prevent a good turn out of visitors, and eager buyers were on hand from almost every county in Ontario...

The list of purchasers is as follows. The average is an exceedingly good one, when it is remembered that many of the calves were too young to wean, yet were sold separate from their dams...

HOW SHE MADE HER MONEY.

Mrs. E. M. Jones' New Book, "DAIRYING FOR PROFIT," Tells the Whole Story.

So anyone reading it can do the same, and secure a comfortable independence. 60,000 COPIES SOLD ALREADY! Orders still pouring in. Price, 30c. by mail; four copies to one address by mail, \$1.

ROBT. Y. BROWN, Agent, BOX 324, BROCKVILLE, ONTARIO, CANADA.

DELAVAL CREAM SEPARATORS

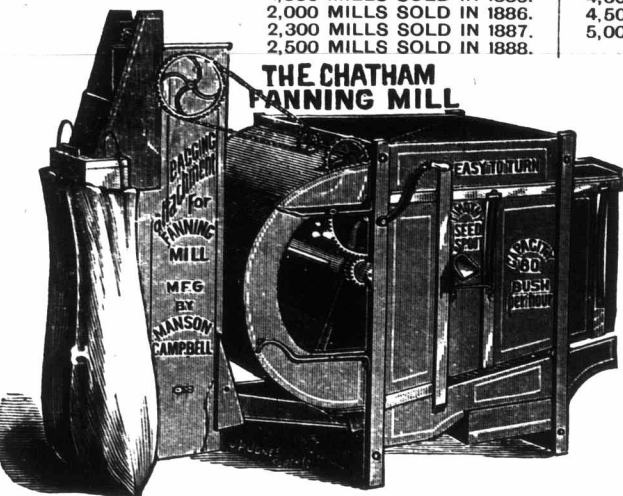
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FRANK WILSON, 33 St. Peter St., MONTREAL.

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Table showing the number of Chatham Mills sold in various years from 1884 to 1888.



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MANSON CAMPBELL, 331-a-om CHATHAM, ONTARIO.

Forty-five Carloads Sold in Ontario since January 1st.

HAVE YOU SEEN . . . . .

The "NEW TORONTO"

It is the finest Separator used in Ontario. When you go to the World's Fair see the beauty in the ABELL EXHIBIT therein.

The JOHN ABELL ENGINES, PORTABLE, TRACTION AND SEMI-PORTABLE, are unequalled for excellence in the Dominion, and have won thirteen gold medals.

THE "VICTOR" CLOVER HULLER. The other machines aren't in it with this one. "DUPLEX" FEED MILLS IN FOUR SIZES. Send for a Handbook for Farmers and Feeders-TREAD POWER THRESHERS, HAY PRESSES, TREAD POWERS, MANURE SPREADERS, PORTABLE SAW MILLS, ROLLER MILLS, STATIONARY ENGINES, BOILERS.

Write to us for a Catalogue, and please mention the Farmer's Advocate.

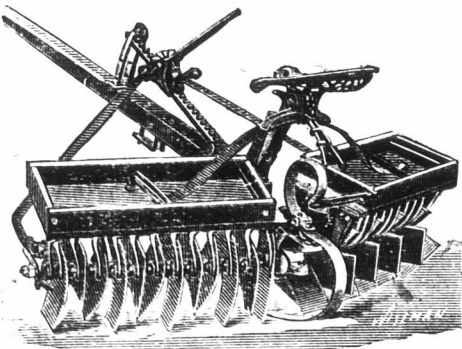
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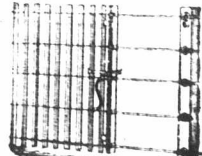
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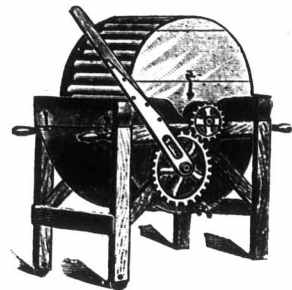


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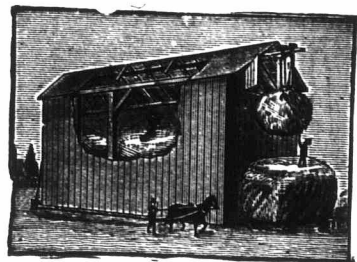
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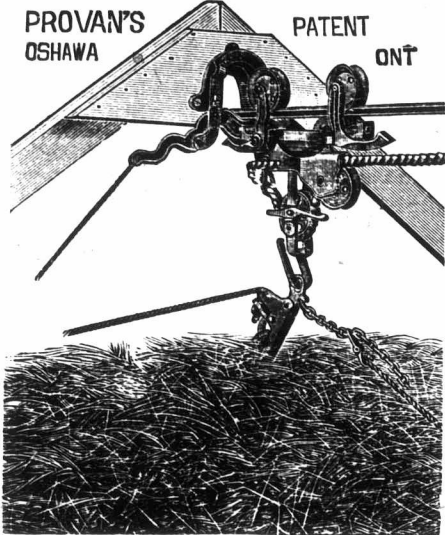
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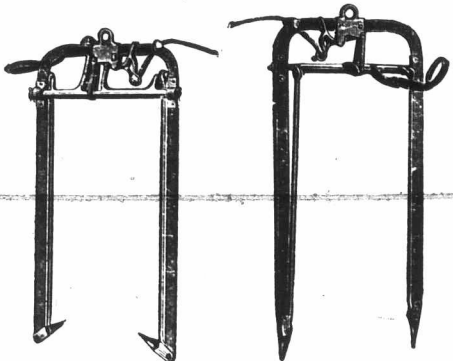
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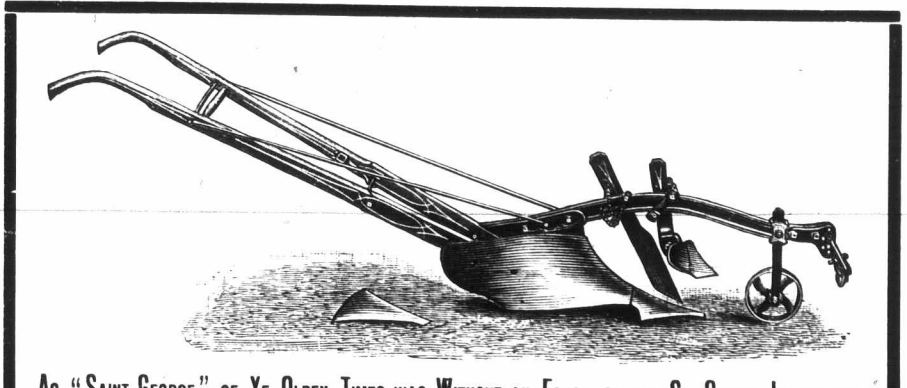


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Which Shall it be for 1893?

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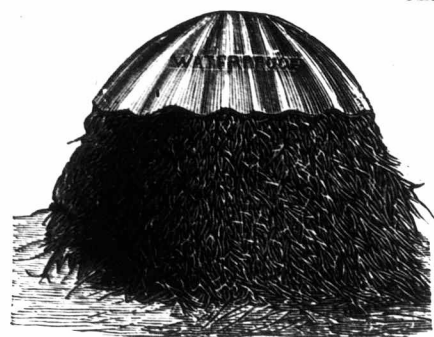
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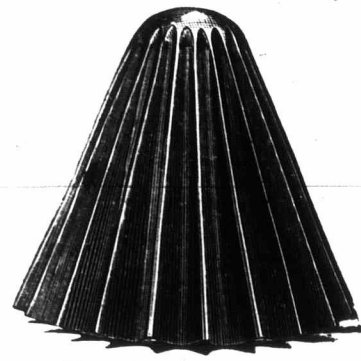
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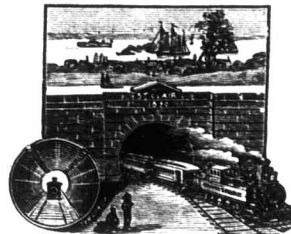
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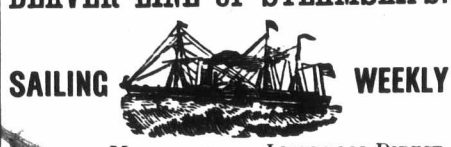
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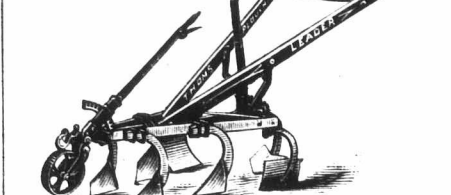


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