

J G Rutherford, VS a pl 93

MANITOBA AND WESTERN EDITION

THE FARMER'S ADVOCATE

AND HOME MAGAZINE



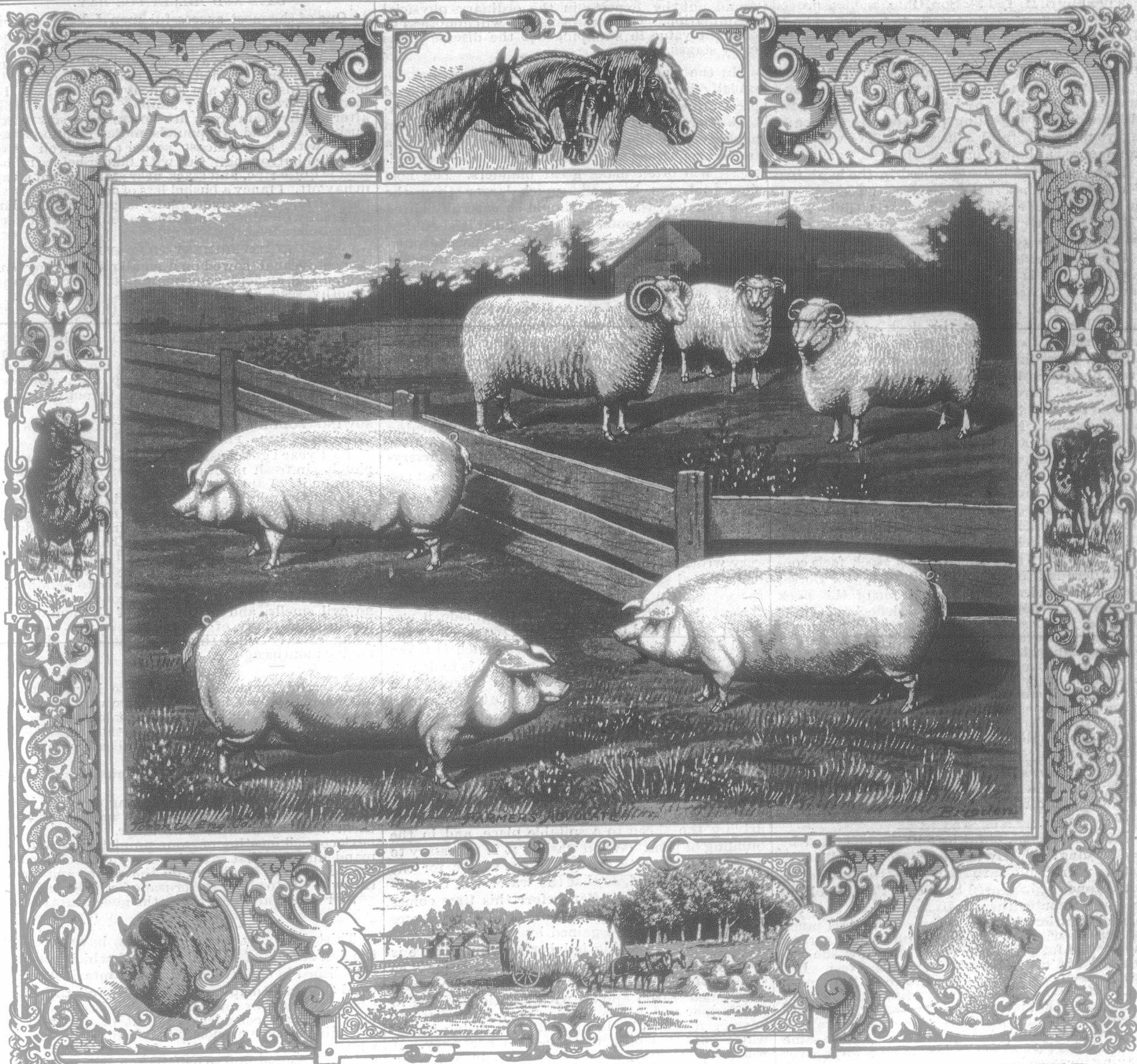
* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE. *

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

VOL. IV.

LONDON, ONT., AND WINNIPEG, MAN., MAY 20, 1893.

No. 46.



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

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, Thorn-dale, 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 14 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 straight-forward 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.

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.

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.

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.

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."

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.

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.

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.

Timely Notes for May—No. 2.

REPLY TO CRITICISM OF TEACHERS' SALARIES.

I was surprised at Mr. "Scrub's" "criticism" of fixed salaries for teachers, for he takes very extraordinary ground when he says salaries should be kept down to keep young people from getting lazy. If it's only boys that he wants as teachers in his local school I have nothing to say; if he is satisfied to let his children be taught by any raw, inexperienced youth who will teach—or rather pretend to teach—cheaply, why he is simply beyond the reach of argument. But would he be willing to give a boy laborer on his farm the same wages as a more experienced man?

Again, I can never get any laborer, however well educated or refined these same "independent, honorable and perfect" chaps may be, who will work fifteen hours a day on my farm. In the first place I never ask them to, and in the second I find they are unwilling enough to even work ten hours. The owner may work as long as he likes, but the hired man wants his evenings to himself, his Sundays away, he declines any work not distinctly "stated in the bond," and so on and so on.

Then again, "Scrub" gets on his high horse, and shrieks "insulting," "ignorant," &c., at my devoted head—forgetting altogether the amenities of debate—and that merely saying "you're another" does not confute any statement.

I meant to insult no one; can't "Scrub" see that if I were to insult farmers generally I would also insult myself, being one of them? In conclusion, I would say that the point I wished to enforce was that we want good, experienced teachers in our public schools—men who are worthy of a good salary, and who will teach. We want school teachers, not school keepers.

OATS AND MILLET FOR HAY.

One of the most successful men I know in this province is a firm believer in the above mixture for horse-feed, and as the proof of the pudding is in the eating, his horses always look well and his colts are the finest in the district. Perhaps I ought to mention his horses are all heavy draughts. His *modus operandi* is very simple; plow up stubble after all the grain crops are sown, then sow three bushels oats and six pounds millet (common) per acre, with a broadcast seeder; roll well after repeated harrowing. Cut with binder before millet seed is quite ripe, and stack near stable or put away in hayloft. I fancy a bushel less of oats, if sown with press drill, would give equally as good results, but he usually obtains from three to four tons per acre of first-class feed.

AN EXPERIMENT THAT FAILED.

Last year I sowed on a small piece of my oat field, about an acre, some mammoth red clover and timothy seed at the same time as the oats. I finished harrowing, then sowed the oats, rolled, sowed the grass and clover seed by hand, harrowed once, rolled down solid, had a good catch, cut the stubble high and left it till spring. I find, however, that all the clover is dead, but the timothy is coming up strong. I mean to plow it up to sow potatoes there, and I expect a better crop through turning under the sod.

SOWING FODDER CROP ON LAND MANURED WITH FRESH MANURE.

Last year I got considerable abuse for advocating plowing in fresh manure, and then sowing fodder crops on it. I am convinced I am right. I simply haul out the manure during the winter direct from the stable, spread it and plow it in, then sow my piece with whatever I intend to grow for fodder—peas and oats I have been using. This year I mean to use corn, and by cutting early I kill weeds, and also get a very heavy crop of feed. I also save a lot of work in summer, and only have to handle the manure once. There is no mess round the stable, no evil smells, and no leaching of the manure. I find a good many of my neighbors this year are doing exactly what they condemned so strongly twelve months ago.

GENERAL.

A terrible mortality appears to have occurred among pigs of all breeds at farrowing time this season. At present there is a great dearth of young pigs; no reason can be assigned; the fat, the lean, the well-bred and the scrub sow all alike have lost their little ones.

Get those pigs out on to the grass; don't keep them cooped up.

Put three horses on to your wagon when hauling a load to town if your roads are bad. Drive them abreast same as on a binder, then go to the next council meeting of your municipality and demand hire for that extra horse you are obliged to use. Let your neighbors do the same, and see if this won't help along the crusade for good roads.

Sell those fat steers before the good grass comes.

"INVICTA."

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.

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 thereof, 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. "This 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.

Brandon Spring Show.

When the Brandon Agricultural Society undertake to hold an exhibition, success is a foregone conclusion. The Spring Stallion Show of 1903, held on April 28th, was another tribute to their enterprise and foresight, as the date had been fixed so that the rush of seeding would be over, but as it happened it came just before the rush had started. The fine market square was clean and dry, the sun shone out for the first time for days, and the large gathering of people appeared in the best of humor. The stallion classes were well filled, there being thirty or forty entries in all. But the classes for bulls were rather empty, owing, doubtless, to the bad state of the roads. John E. Smith had it all his own way in Shorthorns and Herefords, and J. D. McGregor & Co. were alone with a Polled-Angus bull. Four useful looking young horses faced the judges when the class for Clydes under four years old was called.

Mr. Ferguson, of Glenboro, and Mr. Edmonds, of Brandon, who judges the heavy horses, placed the awards in this ring as follows:—1st, Wm. Forsyth's Sir Donald A. This horse was recently purchased from John E. Smith, and is the horse in the foreground of his illustration in our issue of April 5th. 2nd, W. F. Huston's Protection. 3rd, T. Elder's Prince of Wales, with R. Little's horse highly commended.

The most interesting event of the day was the tussle between Charming Charlie, one of the old favorites and the winner in many a hard fought battle, and the recently imported Sir Arthur, who met each other for the first time. The former, owned by Mr. Colquhoun, of Douglas, was brought out in remarkably good form; it is a strong point in his favor that he wears so well and can come out year after year as fresh as ever. Sir Arthur, also a grand good Clydesdale of much the same type as Charlie, is owned jointly by Messrs. Harkness & Smith, came out in fine bloom, and is a hard horse to beat, in our opinion. He moves a little better than Mr. Colquhoun's horse, but there is not quite so much of him. The judges found so much difficulty in deciding between them that they called in Mr. E. L. Smith, of Duart, Ont., to act as referee, who was not long in giving the red to Charming Charlie; Sir Arthur 2nd; J. E. Smith's Neptune 3rd; highly commended to Walker & Munroe's horse, with Wm. Stewart's Forward commended. This left several very good horses unplaced.

In Shires, J. D. McGregor & Co. showed a fine upstanding bay, one of the best horses on the ground. George A. Dilbridge's horse was placed second in the aged class. A very handsome dark brown horse, owned by John Henderson, was first in the class under four year old.

In the Coach class, J. D. McGregor & Co. had it nearly all their own way, with Novelty, Golden King and Rillington Prior 1st, 2nd and 3rd respectively, highly commended going to Wm. Milligan's Occidental, and commended to Dr. Thompson's entry.

The Thoroughbred class was left for E. H. E. Webb-Bowen, and, of course, Comrade was first, with his son, Commodore, a good second.

Considerable interest was manifested in the Roadster class. Mr. Barns, of Portage la Prairie, who judged the light horses, placed them in the following order:—T. E. Kelly's Peri, R. McLellan's Highland Boy, Wm. Willson's Wild Harry, Jas. McFarlane's and A. Colquhoun's. Peri was awarded the sweepstakes as the best light horse on the ground, though many thought Comrade more entitled to the position.

In the sweepstakes class for heavy draught stallions any age, the judges without the aid of a referee reversed their former decision by awarding sweepstakes to Sir Arthur, on the ground that Charming Charlie moved lame in this competition; no one, however, but themselves was able to detect the lameness.

We trust that the Society will not soon forget the lesson taught by the awkward position in which they were placed by this curious piece of work, and in future secure the services of a thoroughly competent single judge, paying him liberally for the work done.

BINS-CARTH STOCK SHOW.

The spring show at Binscarth, on April 20th, was a success. The turnout of heavy draught horses was large. Jas. McTavish's Kintyre Hero took first and Thos. Paradine's Nailstone Puritan second prize in this class. In the general purpose class T. Paradine's Wildboy got first. W. McCamon's Kansas Boy was first in the carriage class; Tontine, owned by A. Clee, of Russell, won the roadster prize. The show of bulls and fat cattle was small on account of the bad roads.

BROADVIEW SHOW.

At a grain and stock show held at Broadview, on April 11th, the attendance was good and the show in every way a success. R. Skrine's Kania King was first prize heavy draught horse. Wm. Dixon won first prize in the bull class. D. McGregor first for Red Fyfe wheat; Wm. Dixon first for barley, and Wilfred Wilde first for white oats.

MOOSOMIN SPRING SHOW.

A successful show was held at Moosomin on April 25th. The entries were well filled, and there was a large turnout of people. The following were first prize-winners:—Heavy Draught—Auchenleeh, owned by Mr. Archie McLean. General Purpose—Pride of Avon, owned by Thos. Mossup. Roadsters—Fidellis, owned by J. R. Reece. Thoroughbred—Dean Swift, Jr., Rev. J. M. Douglas. Mr. R. J. Phin showed some very fine Shorthorn bulls.

Potatoes.

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.

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, 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.

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. A Cornell experiment station bulletin condemns as worthless, except for ornamental purposes, the following: Prunus Simonii (Simon or Apricot plum) and the Wineberry. The Crandall currant was found too variable in bearing to be reliable, and to some the flavor is disagreeable. A dwarf Juneberry, The Success, is favorably reported upon.

Destroying Gophers.

We take the following from Bulletin No. 25 recently published by the Oregon Experiment Station:—

"One of the most effective means for their destruction seems to be a trap in successful use in the large orchard belonging to J. H. Stewart, at Medford, Or. He places, in fence corners about his orchard, boxes about one and one-half feet square at the ends and about four feet long. The top and two ends are united and can be lifted off the box. The ends do not reach quite to the bottom board, an open space of about four inches intervening, and enabling the animal to run through the box and out of the other end. On the bottom, midway between the two ends, pieces of pork rind are securely nailed. These pieces have been first soaked in a solution of strychnine, made by boiling strychnine in water. Kernels of corn may be steeped in the same solution and placed with the pork as an additional bait, but is more easily displaced, and hence more likely to be eaten by some animal for which it is not intended. But the pork rind cannot be removed. The top is fastened on to the box by means of a couple of nails, which can be easily pulled out when putting in new bait.

Mr. Stewart asserts that his trees are free from all attacks of this pest through using this very simple device.

Strychnine is not very soluble in water, but, if thoroughly boiled, enough will dissolve to make a poison. It would seem that if the solution were sweetened it would render it more palatable."

And this from a Wyoming Experiment Station Bulletin which says:

"The most satisfactory results followed the use of bi-sulphide of carbon." "This liquid is highly inflammable and should never be brought near fire for fear of an explosion. It is not poisonous or corrosive to the skin, and may be handled with impunity. Avoid breathing it; the vapor is unwholesome. The only danger is when brought in the presence of fire—a lighted pipe, cigar or match would in all probability cause an explosion. Bi-sulphide of carbon should be kept from children and irresponsible persons, as they are liable to drink it, and the consequence might be serious. The unpleasant odor is easily and readily detected, and by observing the proper precaution no danger need be feared. The method of applying is to take a ball of cotton, about the size of an egg, and thoroughly saturate it with the bi-sulphide of carbon. With a rolling motion throw the cotton into the burrow and close the opening with some earth. The operation is simple and the result certain. The bi-sulphide of carbon evaporates rapidly, and being heavier than air soon fills the burrow and smothers the animal.

"The application should be made in the evening at sundown, as the gophers are in their burrows at that time, and the material will not be wasted. A pint of the liquid will be sufficient to treat twenty burrows.

"On the Laramie Experimental Farm ninety-six burrows were treated during the month of July. The applications were, with few exceptions, made in the evening. The next day the treated burrows were visited, and in no instance had the earth which had been used for plugging the opening been disturbed. A second and third visit to these burrows found them securely plugged.

"There are two grades of the drug manufactured. One known as *Fuma*, and the other as Commercial. We recommend the *Fuma* as being the better. It is sold by the manufacturer, Edward R. Taylor, (Cleveland, Ohio, at ten cents per pound, f. o. b. the cars at the factory. A gallon weighs about ten pounds, and is sufficient to treat 100 to 200 burrows."

From Nebraska to Alberta.

The following, which is clipped from the Quill, published in Schuyler, Nebraska, refers to the party of settlers from Nebraska, brought to this country by Mr. Jas. Gadsden. This party settled in the neighborhood of Olds, on the Calgary and Edmonton road, and many of them purchased C. & E. railway lands through Messrs. Osler, Hammond & Nanton. The following article shows that we are getting some of the best class of Nebraska farmers, and not the ne'er-do-wells from the States, as is so often claimed by the American papers:—

"On Tuesday evening at 10.30 o'clock the freight cars containing the Alberta delegation's effects was pulled out, and that was the starting. There were eight carloads from Schuyler, five from Leigh, and six from Rogers, joined in one train to haul the goods to the Canadian destination, being at Olds, Alberta Territory.

"The following took with them a carload each of stock and effects: Messrs. E. Bame, J. Edmison, A. C. Judd, N. Peterson, R. Smith, R. McRae, T. Preston, J. McIntosh, A. O. Will and Ellsworth Lawrence.

"No cattle were taken. This was on account of of the Canadian quarantine. Cattle will be held at the line for ninety days on account of the precaution used against disease. Some will have their cattle driven up later on, while others will buy at Manitoba and ship from there. The cars will arrive at Manitoba about as soon as the passengers, who left on Tuesday at 1.30 o'clock in the afternoon.

"At Leigh, H. P. Moore had two carloads, R. D. McKee two, and W. P. Cornwell one. At Rogers, C. McLaughlin, George Groat, John Samis, James Samis, James Coventry and Mr. Hilbert were the emigrants.

"On Tuesday the excitement of the departure was greater, and while many watched the freight people off, the crowd was out on Tuesday. A car was set off on the side track above the depot for the use of the men, women and children, and around that during the last hour friends and relatives gathered to say goodbye. Good wishes went with all. It was a sad scene, for friends parted probably never more to meet. It was a long farewell with many. Joking, talking and laughing was the order with many, yet within a heavy weight seemed to collect, and the farewell was more sad than it appeared.

"At Schuyler there were Joseph Edmison, John McIntosh, Alex. McRae, Robert Smith, Ed. Bame, Mrs. Rathbun, Thomas Preston, A. L. Ramsey, Mrs. H. A. Moore, Mrs. Cornwell and Mrs. McKee each with a family. At Rogers more passengers were added to the number. James Coventry and family will go soon, and goods were already shipped. John Lawrence left on Wednesday to join his family, who are in Iowa visiting, and meet this regular delegation at Winnipeg. This was the first load only, as many more will follow.

"The Quill editor is, indeed, sorry to see them leave. They are among Colfax county's very best families, honest and industrious. No dead beats among them. They leave with no debts behind, and looking everybody in the face. With such people Alberta must prosper. We regret to see so many friends leave, but can only wish them well."

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.

THE FARMER'S ADVOCATE & HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY
THE WILLIAM WELD COMPANY (LIMITED).
LONDON, ONT., and WINNIPEG, MAN.

1. The Farmer's Advocate is published on the fifth and twentieth of each month.

It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

2. Terms of Subscription—\$1.00 per year in advance: \$1.25 if in arrears; sample copy free. European subscription, 6s. or \$1.50. New subscriptions can commence with any month.

3. Advertising Rates—Single insertion, 15 cents per line. Contract rates furnished on application.

4. Discontinuances—Remember that the publisher must be notified by letter or post card when a subscriber wishes his paper stopped. All arrears must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given.

5. The Advocate is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.

6. The Law is, that all subscribers to newspapers are held responsible until all arrears are paid, and their paper ordered to be discontinued.

7. Remittances should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

8. Always give the Name of the Post Office to which your paper is sent. Your name cannot be found on our books unless this is done.

9. The Date on your Label shows to what time your subscription is paid.

10. Subscribers failing to receive their paper promptly and regularly will confer a favor by reporting the fact at once.

11. We invite Farmers to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

12. Replies to circulars and letters of enquiry sent from this office will not be paid for as provided above.

13. No anonymous communications or enquiries will receive attention.

14. Letters intended for publication should be written on one side of the paper only.

15. All communications in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—
THE FARMER'S ADVOCATE, or
THE WILLIAM WELD CO.,
WINNIPEG, MAN.

CONTENTS.

- 181—Illustration. 182—Mr. R. H. Harding's Chester Whites and Dorset Horns; Editorial Notes; Timely Notes for May—No. 2. 183—Tariff Reform; What to Feed Cows, and How Often? Economical Building; Brandon Spring Show. 184—Potatoes: The Fleece; New Fruits—Worthless or Otherwise; Destroying Gophers; From Nebraska to Alberta; Asparagus. 185—Our Prize Essays: To What Extent Can we in this Country Follow the English Methods of Sheep Husbandry with Profit; Our Scottish Letter. 186—The Shire Horse; Weeds. 187—First Prize Essay: Building Concrete Walls. 188—The Advantages of Concrete Walls; Canadian Cows at Chicago; Queries Regarding Paying According to Test at Cheese Factories; Questions on Stable Building. 189—Farm Architecture; A Farm House; The Apiary. 190—Rape as a Cleaning Crop and for Fattening Sheep; Veterinary Questions. 191—Miscellaneous: Rendering Cheese Factory Accounts by Percentages of Butterfat in Milk; First Prize Essay. 192—Second Prize Essay; Farmer's Garden. 193—Poultry on the Farm; Convenient Chicken Coops; Tuberculosis; Dairy Products for World's Fair.
- FAMILY CIRCLE:—194.
- QUIET HOUR:—194.
- MINNIE MAY'S DEPARTMENT:—195.
- UNCLE TOM'S DEPARTMENT:—196.
- STOCK GOSSIP:—197, 198 and 199.
- NOTICES:—197, 199.
- ADVERTISEMENTS:—197 to 200.

Our Monthly Prize Essays.

CONDITIONS OF COMPETITION.

- 1.—No award will be made unless one essay at least comes up to the standard for publication.
- 2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling.
- 3.—Should any of the other essays contain valuable matter, not fully covered by the one awarded the first prize, or should any present different views of the same topic, and we consider such views meritorious, we will publish such essays in full, or extracts from them as we may deem best, and allow the writer ten cents per inch (one dollar per column) printed matter for as much of such articles as we publish. By this rule each writer who sends us valuable matter will receive remuneration for his labor, whether he be the winner of the first prize or not.

See section 11 and four following in publisher's announcement above.

A prize of \$5.00 will be given for the best essay on Summer-fallowing, or the best method by which Manitoba and Northwest farms may be kept free from weeds and their fertility retained. Essay to be in this office by May 20th.

[In a new country like this we consider no apology necessary for repeating this as a subject for prize essay this year, as much light is being thrown on this most important subject every year.]

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 twenty-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, Gairloch, 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 Toppallant, 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, Sutherland, Tarves, and carrying his pedigree in his name. He was second. A capital horse, owned by Mr. Robert Copeland, Milton Ardethan, Ellon, was first in the two-year-old class. He was bred by Mr. Lumsden, 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 o' 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. Lumsden 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 Tabreoch, 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, Lochokit, £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 Gowank, 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 £40 8s. 6d. each; two pony mares in foal, £24 3s. 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 £320 5s., but Mr. Hester carried off the three-year-old, Sweet Mary, at £336, and the two-year-old Craigielea, her own sister, at £299 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 Bess 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; 451 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 £48 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 roadster.

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 1814, 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.

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.



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-

vent them conducting frost or moisture through. The mortar should be tamped in so as to fill every crevice. When you have got all round the wall you may raise the plank one foot and go around again, raising the wall one foot each day if the weather is dry. Place the window frames in the boxes when the wall is raised high enough to bring the top of the frames to the top of the wall.

If you have only sand to use, mix five parts with one of water-lime while dry, then wet into a thin mortar, but if you also have gravel, mix the sand and water-lime four to one, then mix into this five or six parts gravel, and make it into a thin mortar and use immediately. If you have stone to lay with it, put it in as described above.

For a wall fourteen feet high use scantling long enough to reach above the wall, and brace them at the centre to keep them from springing with the pressure of the wall. A nice finish for a dwelling house is composed of three parts sand and one of Portland cement. Mix them like mortar for plastering, and give the outside of the wall a coat of this, then line off in blocks like square stone. I got the proportions and method of building this wall from Professor E. W. Stewart, of New York, when we built our barn, and I have superintended the building of several since with entire satisfaction.

The Advantages of Concrete Walls.

BY W. A. DOYLE, BEULAH, MAN.

The advantages of concrete over the stone are:

1st. Its exceeding cheapness, as where lime can be bought for 35 cents per bushel and gravel convenient, the cost is about one-half that of masonry, after allowing full wages for the farmer's time in teaming and building.

2nd. It is much drier, both in winter and summer, and consequently more healthy. It is much warmer than frame, much cheaper, and it is good for generations. When walls dry they become as hard as ordinary masonry. If it is required harder, a small quantity of Portland cement can be used, which can be procured from hardware and other dealers for 1 cent per pound, but it must be used as mixed, or it will set so hard in a few minutes that it cannot be handled or packed. [Usually sold in small barrels at from \$3.50 to \$4.00 each.—Editor.]

In 1891 I built a concrete house, 24x36, with wing 20x24, all 16-foot walls, with three gables, cellar 20x24, and furnace room 13x13, all 9-foot walls. The lowest tender to build in frame was \$2,200. I determined to build concrete; hired two men, paying one \$1.75 per day and the other \$1.50. They dug both cellars, dug and built the lime kiln, burned the lime and built the walls, and all this cost me \$172.50. My farm hands hauled the stone and gravel and cut the wood for the kiln. Thus my lime cost me only 17 cents per bushel. I bought my flooring, rough lumber and shingles at Birtle, and imported all doors, frames, sash, casings, stair material and paint; lathed and plastered and painted, finishing in superior style for \$1,410. This includes hauling stone and teaming lumber. My cellar walls are two feet thick and concrete, except two feet of stone work at bottom, done by ourselves, and house walls one foot thick. I have saved \$700; I have a house worth far more than a frame one, which I can insure at a lower rate for all time.

Mr. Doyle commends the use of stones in building concrete walls, thus effecting a great saving of the more costly material. On this point he says:—"Having bedded the boxing by placing about three inches of mortar in it, packing it down with any broad hammer (a small stone hammer will do), packing it firmly into all corners, if stone is to be used, next set in the stone, tapping it or working it down into the mortar, placing the best face to outside of wall and in contact with the boxing. All stones, large or small, must be apart to allow the concrete to be packed between, thus filling up all spaces and obtaining a good bond. This use of stones is not objectionable, and a great saving of lime and labor in mixing is thereby effected. If stones are selected with a good face and of variegated colors, the effect on the finished wall is very pleasing, and most persons prefer it to the unbroken dead-grey of the concrete. No stones over ten inches in diameter should be used. Then fill up the box with mortar, pushing and packing it with a small stick or lath all around the stones to leave no cavities, and packing with the hammer."

Mr. Doyle also recommends several sets of boxing, which he constructs as follows:—Place the boards on edge, parallel to each other, the exact distance apart as the wall is thick (say one foot). Nail pieces of lath across each board at right angles, allowing each end of lath to project two inches beyond outside of box, thus: Cut lath eighteen inches long. Use shingle nails to nail on lath, two nails at each end. Nail a lath about three inches from each end and between those, like braces, every two or three feet. This stiffens the box and holds it rigid exactly one foot wide inside. Then turn the box upside down and nail a similar set of lath braces on the other side. Next cut a lot of cleats 1x2x10 and nail with 2½-inch wire nails perpendicularly on the outside of boxing and projecting two inches above, clinching the nails inside. These cleats will prevent the next row of boxing from spreading. Nail cleats close to each end of box on both sides, and others between, every two feet. If wall is to be built on a stone foundation, the boxing should be set three or four inches in from outside of masonry. Nail the boxing together at corners of wall with 3-inch wire nails, to make corner joint tight and a neat right angle; when boxing is placed all around the wall, square them.

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, Londesboro, 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.

NOTE.—A subsequent letter from Mr. Wade informs us that the result of the first day's test of cows was as follows:—Twenty-five Jerseys gave 932 lbs. of milk; twenty-five Guernseys gave 724 lbs. of milk; twenty-five Shorthorns gave 808 ½ lbs. of milk.

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.

Questions on Stable Building.

To the Editor of the FARMER'S ADVOCATE.

Will you inform me through the columns of your journal which is the most profitable way to stable cattle, including milk cows; whether they should be tied up or run in loose? I am about building a stable, and am somewhat puzzled to know which is the best plan.

Yours truly,

A. GALLOWAY, Arcola, N. W. T.

[This is a pretty big question, and several columns might be written in answer to it. Perhaps some of our readers will help us answering this question. For our part we would certainly tie up all milk cows, so that they may be kept clean and milked with comfort to themselves and the milkers, while calves and yearlings do best in roomy box stalls. Next month we intend publishing a plan of a barn, giving specifications for same, which will doubtless be of service to many.]

Farm Architecture.

We take great pleasure in introducing this new and interesting feature to our many readers. Many a farm house is built with little thought of having it attractive in external appearance, or of making the interior arrangements convenient and at the same time economizing space; whereas by forethought and planning, with little or no increase in the cost, a house could be made much more convenient, more easily heated, better lighted, more labor-saving and more attractive both inside and out.

Farmers know how to appreciate a conveniently planned stable, but are apt to take little interest in the arrangements of the house. A nice looking house not only adds to the value of the farm from a commercial standpoint, but adds much to the love all members of the family have for their home, and thus is a great factor in keeping the young folks on the farm. In having this plan prepared we have aimed at nothing elaborate, but a simple, convenient, and not overly expensive house.

In the next of this architectural series we purpose giving drawings and specifications for a barn and stable.

A Farm House.

The accompanying cut gives the elevations and floor plans of a farm or country house, costing from \$1,800 to \$2,000, according to locality.

Size of Structure—Main part, 30x30 feet; rear wing, 14x16 feet.

Size of Rooms—See plans.

Height of Stories—Cellar, 6 feet 6 inches; first story in main part, 9 feet; in wing, 8 feet 6 inches; second story, main part, 8 feet 6 inches; in wing, 8 feet.

Materials—Foundation, posts; first and second story, frame, covered with shiplap, tar-paper and "drop" siding; gables and roof shingled, over shiplap and tar-paper. First floor of main house is a double one of shiplap, tar-paper and "T. & G." flooring. Second floor, single, of white pine "T. & G." flooring. Flooring of dining-room, vestibule, pantry and kitchen to be of Douglas fir; all other flooring, white pine. Shingles used on building to be all of B. C. cedar.

Plastering—Two coats, with usual Plaster of Paris hard finish.

Painting—Two coat work throughout, and "picked out" in two colors.

Special Feature—A large comfortable and good looking farm house for a comparatively small sum of money; an isolated bed-room for the working-men; an earth-closet off laundry or woodshed for winter use. This closet is fitted with earth-drawer, which may be removed or inserted from the outside of house. This closet is much more convenient and comfortable for winter use than the ordinary privy at a distance from the house.

Dining-room and kitchen are wainscoted with pine ceiling to a height of three feet.

Side gables may be "clipped-tops" as shown on front elevation, or may be carried up in the ordinary way, as shown on side elevation.

Dotted lines on second floor plan represent the roof lines.

NOTE.—A bill of the materials required in the erection of this house will be furnished free on application to the undersigned.

Complete working drawings, specifications and form of contract, also bill of materials, will be sent to any subscriber to the FARMER'S ADVOCATE for \$20.00; to others, \$30.00, of this design, or alteration of it.

E. LOWERY & SON, Architects, Winnipeg, Man.

The Apiary.

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

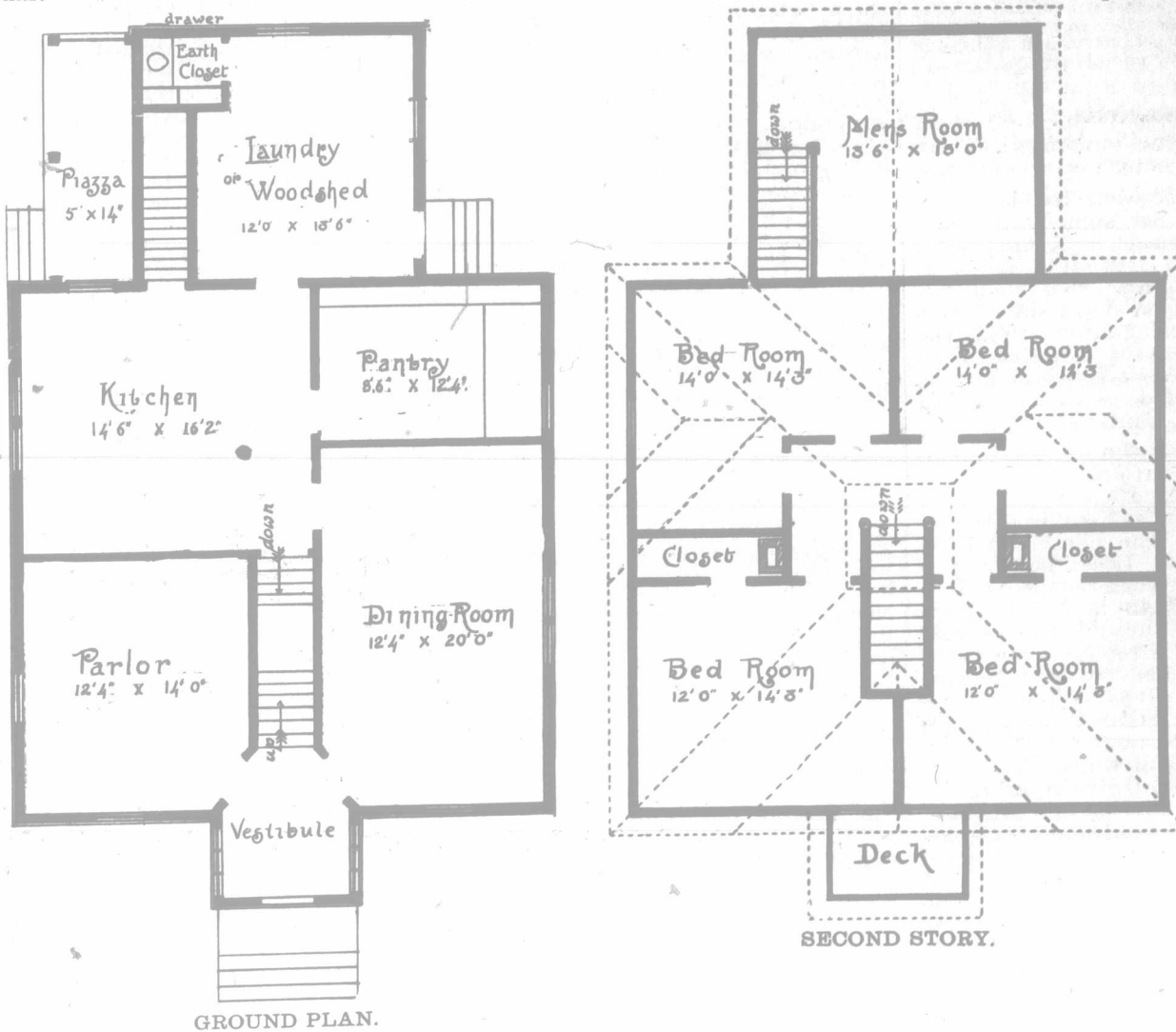
Bees are fed in the spring with one or both of two purposes in view. They are fed, when deficient in stores, to keep them up till they can help themselves in the gardens, orchards and fields, and they



FRONT VIEW.



SIDE VIEW.



GROUND PLAN.

SECOND STORY.

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 cheesecloth to confine them to the box or hive. Now take the old hive of comb, cut the latter out and fasten all that is fit 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.

Rape as a Cleaning Crop and for Fattening Sheep.

BY J. C. SNELL, EDMONTON.

My experience with rape in the last three years, both as a cleaning crop and for fattening sheep, has been so gratifying to myself, I feel constrained to tell it to the world through the *ADVOCATE*. The cultivation necessary to secure a crop is very simple. The land plowed in the fall need not be touched till late in June, or after all the spring seeding, including that of turnips, is over. A couple of plowings and thorough pulverization by the use of roller and harrows is all that is required. Sown in drills 24 to 30 inches apart, about two pounds of seed per acre, kept clean by the free use of the horse-hoe, the cleaning process is quite as effective as a summer fallow, and the amount of feed produced is, in most cases, marvellous. It may be sown any time in June or July. I think it a mistake to sow earlier than June 25th, as the fly is apt to take the plants, and if it does get an early start it is liable to wilt and turn yellow in the dry spells we so often have in August. In clean land it will do very well sown broadcast, but better in drills with cultivation. Stock should not be turned on it till it is about 12 to 15 inches high, as the stronger the stalks become the better feed they make. Care is necessary when stock is first turned into it. They should not be put on it while wet with dew or rain for a few days, and a pasture field should be accessible, so that they may have the run of both grass and rape for two or three weeks, when they may safely be confined upon it. Sometimes there are considerable losses from stock becoming bloated or scoured, and I have known cases where the ears of sheep became swollen and they have lost part of their ears, but in the last three years, with from 5 to 12 acres, I have not lost a single animal, have had no mishap, and my sheep have done wonderfully well on it. Last fall I had 25 Cotswold ram lambs on rape that had never been fed anything since they were put on grass in spring, and, on rape alone, many of them weigh from 150 to 175 lbs. each, and have backs as broad as a board. A good feature about rape is that its feeding quality seems to improve with frost, and the sheep will relish it and continue to improve on it right up to winter, or until it is covered by snow. Young cattle also do well on it, but it is not well to let the milking cows have it, as it taints the milk. In addition to its usefulness as a cleaning and feeding crop, it goes without saying that the feeding of sheep upon the land makes a fine preparation for future crops. With rape for the sheep, and fodder corn for the cattle, we ought to keep twice as much stock, and have them in twice as good condition as we find them throughout the country.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail. In cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary Questions.

ANSWERED BY W. A. DUNBAR, V. S., PRESIDENT OF THE MANITOBA VETERINARY ASSOCIATION, WINNIPEG.

I had a five-year-old horse castrated late last fall; he bled till he lost his sight, which he has not yet recovered—seems to be a light scum over the eye. Three or four days after the operation a "ball" formed around his penis, two inches from the point and larger on front side. This "ball" prevents the penis being drawn in all the way. The horse is in good condition, and has been kept in warm stable. 1st, What can I do for his blindness? 2nd, What can I do with the growth on penis? A. B. MCRAE, Cannington Manor.

If the blindness is due to the excessive hemorrhage consequent on castration, it consists of paralysis of the optic nerve, a condition which sometimes disappears as the system regains its normal tone and strength. The blindness, however, is very often permanent. Local remedies are of very little value, especially when the disease is of long standing, and if benefit can be derived from medical treatment it must be through the internal administration of medicine. Prepare your horse for a purgative by feeding exclusively on bran mash for sixteen hours, and then give the following:—Barbadoes aloes, six drachms; calomel, one drachm; ginger, two drachms; treacle, sufficient to form a ball. Continue the bran mash diet until the purgative has ceased to operate, and then give morning and evening in usual food: Sulphate of iron and nuxvomica, of each one drachm. Continue this treatment for one week, stop for one week, and then repeat for one week. This routine should be observed until three weeks' treatment has been given. The penis is partially paralysed, and the "ball" that has formed upon it consists of inflammatory effusion, which has by this time become partly organized. This condition of the penis is often difficult to treat successfully. In some cases amputation of the organ has to be resorted to. I would recommend (in addition to the treatment already prescribed) scarification and afterwards daily fomentation of the enlargement. Give the animal moderate and regular daily exercise. If possible, you should put the case under the personal supervision of a good veterinary surgeon.

1. I have a colt rising two years old that has a bog spavin. Would you kindly inform me whether it can be cured or not? If so, what will remove it? Would you also be good enough to state whether plenty of exercise would be advisable, when under treatment? The colt is entire, and is very lively.

2. Would you also be kind enough to tell me of a good remedy to cool the blood of horses?

SUBSCRIBER.

1. If there is no lameness in connection with the bog spavin, the distended condition of the joint may be due to an excessive secretion of synovia, independent of inflammatory action. This condition is often observed in colts of heavy breed, with coarse or crooked joints, and it is sometimes noticed in joints that are abnormally straight. When not a symptom of actual disease, the enlargement will often gradually disappear (without medical treatment) as the animal approaches maturity. If your colt is lame in the slightest degree, I would advise you to treat it as follows:—Cantharides, two drachms; hydrar biniodide, one and one-half drachms; vaseline, two ounces. Mix; rub the hair closely from the parts; rub all the above ointment well in with the hand; let it remain for forty-eight hours; wash off, and apply lard or vaseline to the blistered surface. Repeat as soon as the scab falls off, which will be in about two or three weeks. Keep the colt stabled while under treatment. 2. If your horses are in plethoric condition (full flesh), with a tendency to stocking of the legs, or the breaking out of pimples or blotches on the skin, I would advise you to give to each a dose of purgative medicine, such as the following:—Barbadoes aloes, one ounce; ginger, pulverized, two drachms; treacle or soft soap sufficient to form a ball. Before administering the ball, it will be necessary to prepare the animal by feeding exclusively on bran mash for at least sixteen hours, and after giving the ball, continue the same diet until the medicine has ceased to operate. Take chill off drinking water while physic is operating. The purgative may be followed by giving in a mash, every night for one week, two drachms nitrate of potass.

Can you or any of your readers enlighten your subscribers as to the best means to be used with cows slipping their calf-bed after calving, and what treatment, if any, to prevent a recurrence of it in future?

SUBSCRIBER, Balmoral, Man.

If inversion of the womb is complete, and the foetal membranes (cleanings) are firmly adherent, and the cow is in a recumbent position, place a bed sheet, or any other suitable piece of cotton cloth, below the inverted mass, and then remove the "cleanings" carefully from their attachments. To do this properly often requires the exercise of a good deal of patience, as the membranes are usually quite firmly attached to the cotyledons of the womb, and undue force or haste in their removal is liable to materially injure the parts. When the "cleanings" are removed, cleanse the womb well with tepid water; but if the weather is warm and the womb is much congested, use cold water freely. When the womb is thoroughly cleansed from all extraneous substances, an astringent and soothing lotion, such as the following, if at hand, should be applied to it:—Sulphate of zinc, one ounce; tincture of opium, two ounces; water, one quart. The work of returning the womb should now commence, and if the animal can be made to stand, the task will be much more easily accomplished. If it is very weak and not feverish, a good stimulant may be given with the view to enabling it to get up. The lying position is to be, if possible, avoided, and every reasonable means should be used to raise the animal and to make it stand. If, however, it is unable or refuses to stand, then it must be placed in as favorable a position as possible for the successful performance of the operation. The hind quarters should be raised as much as possible by placing bags containing straw under them, and it is sometimes very advantageous to turn the animal on its back with the crop raised as high as expediency shall direct. If the standing position is maintained, two assistants, one at each end of the sheet, will support the womb, a third, if available, will hold back the tail, and a fourth will be required at the head, where he will seize the nose with one hand and a horn with the other. The womb should be raised on a level with the passage, and the operator should first return, by gentle and firm pressure with both hands, the parts nearest the vulva, (shape.) When two-thirds of the mass has been conveyed into the pelvic cavity by manipulating in this manner, the closed fist should be applied to the end of the womb, when, by steady but not too violent pressure, the reduction of the remaining portion is generally easily effected. After making sure that each horn of the womb is returned to its normal position, withdraw the arm and apply a truss, which should be previously prepared. A simple but very efficient truss is made as follows:—Take two pieces of five-eighth rope, from 12 to 14 feet long; double each piece and intertwine the doubles, making at least two turns on each side, which will form a loop or oval space which is to be applied so that it will compress the external lips of the vagina (vulva) and at the same time permit the free discharge of faeces and urine. The two portions of one of the ropes are passed along the back and fastened to a collar, or large rope, round the neck; while those of the other rope are passed between the thighs on each side of the udder, brought along the belly and tied to the lower part of the collar. These ropes are interlaced with other two pieces of rope,

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 high 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 thorough-bred 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 skillful 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.

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 930, 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 $930 \times 3.6 = 33,804$ pounds of butterfat, B $1467 \times 3.8 = 55,746$, and C $870 \times 3.5 = 30,450$, 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 \$21.89. Hence the price of the butterfat per pound would be $\frac{21.89}{120} = 18.24$ c., and A would receive $33,804 \times 18.24 = \$616$, B $55,746 \times 18.24 = \$1,016$, and C $30,450 \times 18.24 = \$555$.

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 $\frac{22631}{56722} = .398$; 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 $10.5 - 1.5 = 9$ c., and their butterfat would be worth $9 \div .398 = 22.61$ c. per pound, and the net price of cheese to non-stockholders would be $10.5 - 2 = 8.5$ c., and their butterfat would be worth $8.5 \div .398 = 21.35$ c. 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.

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.

FIRST PRIZE ESSAY.

The Best and Most Profitable Succulent Food for Stock in Winter in Manitoba and the Northwest.

BY D. F. WILSON, BRANDON.

That to the farmer who keeps stock a supply of succulent food is invaluable in economic feeding, any one who has once tried it will admit; but in considering what is the most profitable crop to grow for the purpose we have to look both at the cost of production and the feeding value of the crop when grown.

In Manitoba and the Northwest, where such large areas of wheat are grown, and summer-fallowing practised to such an extent in order to keep down weeds, there is probably no cheaper way of producing roots than by making use of the summer-fallowing to do so. There are but few farms on which more or less land is not fallowed every year, and in the great wheat-growing districts it constitutes a very considerable acreage. It is a great pity that these large fields should remain idle, yielding no profit, when they might produce succulent food in abundance for all the stock on ordinary farms.

In order to do this the summerfallow should be plowed immediately after seeding, and harrowed the day it is plowed, in order to start the weed seeds to grow. As soon as the weeds begin to show harrow again, and repeat the harrowing till no more weeds appear; then sow the fallow broadcast with turnip seed, not too thick, and then give it a stroke of the harrows. In the fall the best of the turnips can be pulled and stored for winter use, and the rest pastured by the stock. In some parts of the country where there is comparatively little land under cultivation and large numbers of cattle kept, it may be necessary to grow them in rows and cultivate them in the regular way, but where there are large summerfallows this would be a waste of time.

A succulent food, which it is always well to have a supply of for the horses, is the carrot, but as this needs to be sown early, it requires cultivation, and will not do on the fallow.

The mangel is fine for milch cows, but requires rich and well-prepared soil. When we look for the cheapest succulent food, we find it in the turnip, for it can be grown at a small cost of labor and yields heavily. It is true that the swede is more nutritious, containing 1.5 per cent. of albuminoids, which is the constituent of most importance, to 1.1 per cent. in the turnip, but this advantage in the swede is more than counterbalanced by the increased yield of the turnip, and also by its quicker growth which allows of its being sown comparatively late, which is of great importance when sown on a summerfallow. In dry seasons a crop of turnips may be grown when all other roots will amount to nothing; this is a decided advantage in favor of the turnip. In growing a succulent crop the first point to be aimed at is a large amount of succulence, and if the turnip is deficient in nutriment, it can be made up for by feeding a small quantity of oat-chop, rather than by growing a smaller quantity of succulent feed at a greater cost and at more risk. Oats contain nearly thirteen per cent. of albuminoids, so that a very small quantity will make up the difference in these elements between the turnip and the swede.

The turnip is deficient in keeping qualities, and cannot be depended on in the spring, which is a time that they are much needed. To supply this want, the first part of the summerfallow plowed may be sown with swedes before the rest of it is ready for sowing.

The harvesting of roots sown broadcast on a summerfallow is not as easily managed as when they are grown in rows, for then they can be topped with the hoe and pulled out with the harrow. When broadcasted they must be pulled by hand, topped, and thrown into heaps, or pulled and thrown directly into a wagon and topped before putting into the root cellar.

As to varieties, I have grown the White Globe and Devonshire Grey-stone, both doing well and being more satisfactory than the yellow-fleshed varieties. In swedes, the Westbury and Bangholm have both done well with me.

But while we may talk about roots, I believe the coming succulent winter feed is corn. After seeing the crop of North Dakota corn, which was grown at the Brandon Experimental Farm last year for the silos, one could not but be favorably impressed with it. This corn stood eight feet high, and had great long cobs well glazed. No other crop could produce such an amount of good feed per acre. What farmers want is some sort of a cheap silo, and it would soon be largely grown. That a silo that will answer the purpose can be made very cheaply I am convinced, and I hope before long to give one a trial. One point most decidedly in favor of corn is that dry weather and dry soils suit it, and farmers may depend on a crop of it when all other feeds fail.

SECOND PRIZE ESSAY.

The Best and Most Profitable Succulent Food for Stock in Winter in Manitoba and N. W. T.

BY R. A. M'LENNAN, MINNISKA, MAN.

Fodder corn made into ensilage I think undoubtedly the best and most profitable succulent food that can be grown in Manitoba and N. W. T. To show this, we will deal in detail with its production. The cost of preparing the ground is no more than for any other cultivated crop. The seed per acre will cost less and sowing no more than any other crop. The cultivation of the crop while growing will cost less than any root crop; the yield per acre will average from five to ten times more than any other crop, and the cost of storing the crop will cost less per ton. Reason would conclude that it may be grown here successfully, and experience supports that conclusion.

If all of these statements are facts, it must be clear to all that as it costs less per acre to produce it, while the yield is so much more per acre, and the cost of storing per ton is no more than any other crop, it must be clear to all, I say, that it is the cheapest food at our command, and one only requires to see how the stock relish it and thrive on it to be convinced of its excellent quality, if disposed to doubt.

Let us now consider, in order, the claims made for this crop. The land should be rich and mellow, in a good state of cultivation; and what crop does not require this? One peck of corn is sufficient to seed an acre, and should be sown in rows, from three to three and a-half feet apart, and the plants from six to nine inches apart in the rows. When many plants crowd one another they become sickly and less nutritious for want of sunshine, being much more watery than a healthy plant, therefore it is important that the rows be well apart and running north and south to admit as much sunshine as possible. The time of seeding should be about May 25th, the standard rule being, "Have ground ready when you expect settled warm weather, and sow when it comes." In cold weather the plant becomes yellow and sickly, from which it does not readily recover. Better trust to growing the crop in two and a-half months than to try to start in cold weather.

When the crop is nicely up, no better cultivation can be given than harrowing with a light harrow, and afterwards, at intervals of two weeks or so, cultivate shallow with horse hoe, or, better still, with a two-horse cultivator; that will cultivate both sides of a row at once, leaving ground level.

The yield per acre of this crop averages twenty tons of green fodder, while other crops, including roots, oats, etc., average not more than three or four tons per acre.

Since the mere hauling of a crop is a very important part of the labor in storing, and since this crop yields so much more per acre than others, it is clear that the distance that a given number of tons must be hauled is much less. When cut with a binder, which can be done with common varieties, and then cut with a cutting box and run with carriers into the silo, the other labors incident to storing, I believe, is in favor of corn. It follows, therefore, that the storing of this crop costs less than others.

To grow this crop successfully we require about three months of warm weather, which we usually have from June 1st to end of August. A little frost just before cutting does not damage it much, especially if it does not get wet. Any time that I have tried to grow corn, or that I have seen it grown in Manitoba, it did well, considering the care it received, and produced a good crop of fodder; and the test on the Experimental Farm, at Brandon, the past year, as reported in the FARMER'S ADVOCATE, was a grand success.

The Mammoth Southern varieties for some years were considered preferable to earlier kinds for this crop, but later experience proves those varieties which come nearer maturity to be the best, so that the grain grown nearest us, that is at the northern limit of production of mature grain, will be the best for us to sow. Some varieties can be cut with a binder, which is quite a recommendation, such as the North Dakota Flint.

To conclude, a ton of fodder corn ensilage can be produced, including seed, cultivation and storing, for less than one dollar per ton, and half an acre will produce ample for one cow for six or seven months.

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.

Farmer's Garden.

BY BOBT. BARCLAY, BALMORAL.

A vegetable garden, I think, is generally admitted to be a necessity upon the farm. A flower garden is not only an ornament, but also affords a pleasant pastime and brightens many a spare hour; it also has a refining influence upon all who take an interest in it. The cultivation and propagation of the beautiful in nature always tend to enlighten and elevate the mind and feelings of the human being at all ages, and when combined with music will greatly add to the harmony and contentment in the family circle. I have no use for either man or woman who tells me they cannot see any good in flowers, and that one only wastes time paying attention to them, and I am thankful to know from experience that such people are the exception and not the rule, otherwise we would have a dull, dreary and uninviting world. What is more beautiful or meets the eye with greater approval than the nicely kept flower plot around the country home, with all its shades of color beaming brightly in the sunlight? and certainly there is nothing upon this earth so entrancing and more invigorating than employment among plants, and seeing them as they move on stage by stage as the season advances. What greater comfort or satisfaction can one have than plucking a pretty bouquet of fresh and fragrant blooms from his or her own garden, and carrying it to some sick friend who finds a greater charm in it than in anything else you could give them, or even if it were only to some who are necessarily pent up in city or town, and are not so fortunate as you are in having any place to grow them? I have known many a delicate and sick creature who has been cheered and made happy in their affliction by the gift of a few fresh pulled flowers, and in fact no one knows their full value until they really cannot have them. A great many people in the province and the territories are of the opinion that very few flowers will grow satisfactorily, and these few are only annuals, but I affirm to the contrary, and know by practical experience that some of the best perennial and herbaceous varieties can be raised to greater perfection, and in less time here than in some of the older countries. These are notably *Delietra Spectabilis*, commonly called Bleeding Heart, *Pæonies* (five different colors), *Phloxes*, *Geum* or *Scarlet Likeness* (single or double), *Lily of the Valley*, *Spirea* and *Delphinium*. A very pleasing effect can very easily be produced by digging deeply a plot nine to twelve feet broad around the house, about eight feet from it, and lay it off in circles and squares, or diamond figures, alternately. Plant a herbaceous or perennial in the centre of each, to remain there for two or three years; sow or plant *Mignonette*, *Sweet Alysum* or *Lobelia* around the outsides as a border, and fill up each with any or all of the following varieties, placing them so that the different heights and colors will contrast and blend together, and thereby cause at the same time a neat and brilliant scene:—*German Asters*, *Ten Week Stocks*, *Balsam*, *Petunia*, *Phlox Drummondii*, *Portulaca Grandiflora* (double), *Verbena Hybrida*, *Dianthus Hedewegii*, and *Chinensis* and *Pansy*; those should be sown in a frame or in boxes in the house about last week in April or very beginning of May. Also *Canna*, *Candy-tuft*, *Eschscholtzias*, *Zinnia Elegans* fl. pl. (double), *Salpiglossis*, *Clarkias* and *Princess Feather*; these do best when sown in the border about the second week in May. I had a plot laid out after this fashion last season, it was both a beauty and a success, and many of the plants kept blooming a long time after the first frost set in, and it was greatly admired by many of the neighbors and visitors. Of course the way in which some of the houses in Manitoba are built won't admit of this plan; then the only way for people so situated is to have their flower plot as near the house and as far away from the hen coop as possible, but by all means have one, more especially where there is a family. However, there is one thing every farmer can do to beautify his residence, and make it more homelike with very little trouble at almost no expense, and that is to dig in some good, rich, loam soil along the walls of his house, and sow in it in the beginning of May the following seeds intermixed, viz.: *Scarlet Runner Beans*, *Convolvulus Major*, *Climbing Nasturtium*, with mixed *Sweet Peas* underneath each window, and run all of them up neatly upon cords or wire. These form a magnificent covering for the bare walls, and produce a splendid combination of colors.

A few hints as to trimming up and cultivating the bushes and plants in the garden may not be out of place at this season of the year.

Strawberries.—Do not remove the litter or hay you had over your plants for winter protection all at once, but take it away by degrees day after day, as clearing it right off at one sweep will leave your plants (which are naturally soft and very tender by being imprisoned so long) open to a scorching sun by day and spring frosts by night, which are sure to kill them right off; hence so many grumblers who tell you that there is no use of troubling with strawberry plants in this country, as, if the hard frosts of winter do not kill them, they will die out in the spring. I cannot impress upon your readers too strongly the necessity of hardening off the plants slowly and surely; generally speaking, it will take a week or ten days to do this, after which the plants will strike out with vigor and grow steadily right along, withstanding the hot sun during day and the slight frosts over night. After you have

all the covering cleaned away, place any stray or irregular runners closely into the rows, top dress the soil with thoroughly rotted stable manure, and fork it in so that it will be well covered; if this is not done, and any of the manure is left upon the surface, if a dry season should follow it will induce a quicker drought and attract the dews which we generally have in warm weather from plants and their blossoms, and in that way very often keeps the bloom from setting into fruit. There is one thing necessary and most essential with strawberry as with pea when it is in bloom, and that is moisture, so when the weather is dry and there are no dews of any account, I take a watering can with a fine rose upon it and spray the flowers gently with water (that has stood in the sun all day) in the evenings, and thereby secured for myself a magnificent crop, when people around me, either through ignorance of this fact or from sheer laziness, had scarcely a berry; if there is anything required to endorse my theory and practice, I have only to call your attention to our wild or native strawberry. How many seasons have many of us seen a grand array of flowers, with the expectation of a plentiful supply of fruit, and had our hopes blighted—not, as some people would have you believe, by frost, but by dry weather or a want of moisture? Now, the strawberry bed is the one above all others in the garden which must be kept clear of weeds. The only sure and best way to accomplish this is by the constant use of the Dutch hoe between the drills; this keeps the weeds from getting a start and cultivates the soil, so that the surface is kept open and allows the roots to have free breathing, whereby your plants grow more strongly, and the fruit not only larger, but has also a finer flavor and matures with greater rapidity.

Gooseberry and Currant Bushes.—If you did not prune these last fall, get at them without any delay; clean away all rank bottom shoots, and cut back to half-a-dozen eyes the strong-growing ones on the various stems; also nip the ends off the weaker ones. If you did not supply them with manure in the end of last season, when both that and the pruning ought to have been done, do so now by topdressing lightly with well-rotted manure, not too closely to the bushes, and plow or dig it in, so that it is well covered. Never on any account dig holes at the bottom of the bushes and mulch the roots with rich, juicy manure, as I have seen people do in Ontario and the Old Country; it will not do in this climate, as it invariably causes the bushes to run to wood, which casts the berries when they get to be about the size of green peas. I have learned by practical experience, and it stands to reason that all plants do better in every climate when they have to do some work for themselves in reaching out through their fibres for the food they relish. Many a time I have been asked if I could explain why currants especially, and sometimes gooseberries, dropped off shortly after they were formed, and my answer is, That it is caused by too much rich feeding and too little labor or exercise. We see the same thing with many a good man spoiled for want of something to do, and need I remind you or your readers that the vegetable world is very much the same in many ways as the animal world, and in many instances requires similar treatment? Many do not believe this, and if they do they don't wish to think so, but it is the case nevertheless, and the more one studies the subject they shall become more and more convinced that it is so. In conclusion, under this head, let me just say a word or two as to the gathering of red and white currants: The strings should never be torn off, as by doing so you injure the eye or bud which is on the stem at the inside end of the string, and thereby destroy that which ought to produce fruit for you in the following season. You ought to nip every string a little way from the stem with the nails of your finger and thumb.

Raspberries.—The easiest grown and one of the best paying fruit crops in Canada and elsewhere. If no fall work was done among these, commence at once; clean out all dead and rotten canes, remove also all superfluous good ones, and leave up to twelve or fourteen of the best in each plant for this season's fruiting; take the top ends of your canes, bring them together with your hands, and tie them tightly about eight inches from the top with a willow or soft cord; this prevents any breakage by wind or by persons moving amongst them, and facilitates the pulling of the crop. Give a good thick coating of the richest rotten manure you can get (poultry or blood manure is the best, as this class belongs to what are termed greedy feeders); plow in deeply, leaving none of it upon the surface; cultivate regularly, either with the Dutch hoe or cultivator; this will keep your land free from weeds and help the growth of both canes and fruit, and at the same time disposes of all unnecessary suckers rising between your drills. Clean away during the season (do not wait till fall, as many do) all extra shoots or young canes that will not be required between the plants, and thereby send all the strength of both land and manure into the fruit of this year and the canes for next season.

Black Caps.—If the work which should have been executed in the fall of last year is not yet accomplished, get at it now by pruning the black and rotten pieces from the canes, and fix the top end of each in line in the ground; top-dress with manure and plow in; cultivate during season similar to raspberries, and cut or prune any exuberant canes when they make their appearance.

Ordering or Purchasing Nursery Stock.—Ere long many of your readers will, in all probability, be waited

upon by gentlemen representing the different nurseries in Canada and the States, and I now take the liberty of giving them a little bit of advice, which I hope may have a salutary effect. Now, I do not know of any nurseryman who has not what is called his *leader*; it may be a specialty in a gooseberry, raspberry, currant or strawberry, or even an ornamental tree or shrub, and their agents are instructed to push that specialty, whatever it may be, for all they are worth. Now, possibly it succeeded well where it was raised, and might suit this climate—some of them do, and others are of no earthly use in this country—in fact, most of them have turned out no good here. Now, farmers and amateurs, my advice to you is, not to be led away by the fine description of the eloquent and silvery-tongued agent, but first find out from good, reliable sources, and from your neighbors who have tried them, what varieties in the different classes have succeeded and are likely to do well, and order accordingly. To help you, I shall here give you the names of some varieties in the different classes of small fruit that I have seen tried, both in Manitoba and the Northwest, and have given satisfaction in every way, and will assuredly succeed with you if they get anything like proper treatment.

Strawberries.—I notice that one of your correspondents would like to lead us to believe that anything of this sort will do well, as he says, "Where native strawberries abound the cultivated ones will succeed"; but we must not take everything for granted, and the same gentleman knows as well as I do, that he found that quite a number of the cultivated varieties did not succeed with him and some of his neighbors, although every care and the best of treatment was lavished upon them. Crescent is undoubtedly the best, as it is thoroughly hardy, a heavy cropper, carries good-sized, well-flavored berries, and is an excellent packer for the market. Bubach is my next choice. The only drawback to those and two or three other very good ones is the fact that there are pistillates or imperfect flowerers, and consequently require hybridising before you can have either a good crop or perfect fruit, and to acquire this, you ought to grow some perfect flowering variety among them, such as Iron Clad, Sharpless, or Captain Jack, all of which are hardy and stand this climate well. I am not like some who recommend only pistillates simply because they are the best, and seem to think that it will do well enough to hybridise with each other. No, there is no one will ever bring me to believe that I am likely to get a perfect by crossing two imperfects. Might as well expect to raise a thoroughbred animal from two half-bred ones; and besides, we are very poorly off for hybridising mediums in this country. I have found the surest way to take good crops and well-shaped fruit off the pistillates is to plant a perfect flowerer or non-pistillate every third plant in the rows, and reversing the order in each row; this gives extra opportunities for the polling to be carried along and across your strawberry plot.

Gooseberries.—Houghton is by far the hardiest, and has braved the winters and springs best. It crops well, but the berry is small. Downing comes next, and although it is not hardy, it has a larger fruit, and I have seen it do well in a number of places, and is perfectly safe where it is afforded a little shelter. Smith's Improved is a finely-sized and well-flavored variety, but can only be grown satisfactorily when well sheltered.

Currants.—Fay's Prolific (red) is a long way superior to any of its class-mates, as it is hardy, a heavy cropper, bears the largest and finest berries which carry well, and, not like most varieties, does not run to wood. It is well worth the difference in price, as in fact it is cut out entirely for Manitoba culture. Dutch Red and Raby Castle are both good useful and thoroughly hardy sorts, but require to be well looked after and judiciously manipulated with the pruning knife. With regard to whites, White Grape is the only one I can conscientiously recommend, and there is no better one to be found. Mr. Bedford hits the nail on the head when he advises Lee's Prolific and Naples as the two best blacks.

Raspberries.—If farmers are wise they will leave Turner alone, as it is only once removed from the native or wild raspberry, with very much the same berry, and, if anything, is worse for spreading; in fact, I have seen it overrun some gardens worse than some of our most noxious weeds. Cuthbert, Marlborough and Philadelphia are all good sorts, comparatively hardy and have done well in many localities. Of course, if you wish to be certain of a good crop, the best way with any of them is to lay them down every fall and raise them in the spring.

Black Caps.—Hilborn and Early Ohio are both hardy varieties, and have succeeded well in many places, but of the two I prefer the latter. I would say, have nothing to do with Gregg; it is the finest berry, but altogether too delicate for this northern district.

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.

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.

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, bone 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.

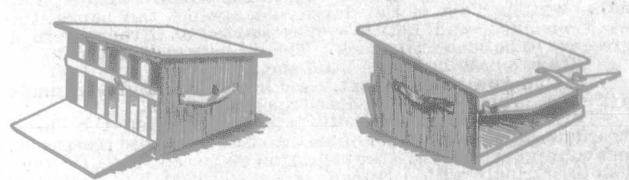
I sometimes think people make "tramps" of their chickens by neglect in providing variety, and I have often wondered why sunflower seeds, a combined food and digester, are not more often grown for poultry. Especially should such oily foods be provided whenever there is any lack of gravel, for, if fats 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.

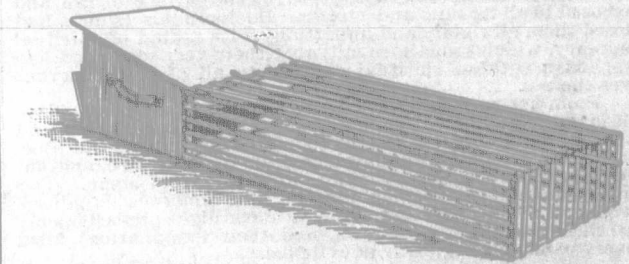
Convenient Chicken Coops.

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.

Tuberculosis.

"What causes bovine tuberculosis?" asked a correspondent of the "Rural New Yorker" of Dr. E. T. Brush, who replied as follows:—"In a word, inbreeding. All breeders know that this practice tends to weaken the offspring, and the longer it is continued the more apparent becomes the weakness. There are two permanent varieties of the domestic breeds of the bovine tribe, one the large and the other the small form. To the latter belong the most noted distinctively dairy breeds, and to preserve their dairy qualities they have been closely inbred. The result is that they are nearly all scrofulous and tuberculous. From the large variety come the half-breeds. The distinctive breeds of each are formed by greater or less infusions of blood from the opposite variety. Among half-breeds the one most closely inbred is the Short-horn, and this is the most tuberculous. The disease develops less frequently among the beef than among the dairy breeds, because the former are generally killed while young, and are not subjected to the extra strain of giving milk. Too early fecundation is also given as another cause of tuberculosis." "Are any breeds of cattle more subject to the disease than others, and why?" "From the answer to the previous question it will be seen that the more closely a system of inbreeding is pursued and the longer it is continued, the more likely, other conditions being equal, is the strain or breed to be subject to tuberculosis. The beef breed which has been most closely inbred and which is also most tuberculous has been named. The dairy breeds which have been most closely inbred are the natives of the Channel Islands. An official of the Bureau of Animal Industry says that 20 per cent. of the thoroughbred Jerseys of the Northern States are affected with tuberculosis. The inbreeding to which this breed, as well as the other Channel Island breeds, has been subjected for many generations, and the unnatural forcing for large milk yields, have contributed to this result. These are the facts; are the deductions reasonable? Proper housing and care, avoidance of too early breeding and too long continued milking, and general sanitary precautions, will prevent the development of the disease. No cow should drop a calf before she is 3 years old."

Dairy Products for World's Fair.

Persons desirous of making exhibits of butter and cheese in the Canadian section at the World's Fair, should at once write Prof. Jas. W. R. Robertson, Dairy Commissioner, Ottawa, for entry forms, address labels, and complete circular of instructions.

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 coppers, 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 woollen 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 woollen goods should be pressed until it is quite dry.

Water in which potatoes have been boiled will cleanse delicate-colored woollen 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?"

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.

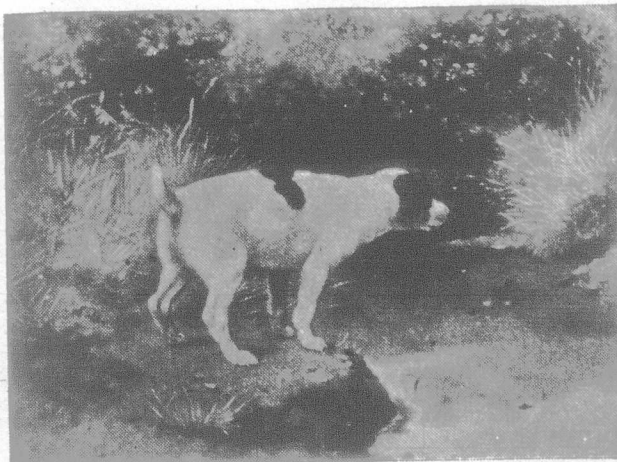
The Rev. Silas Sophtey—Ah, Thomas, that man tried to take me in about that wretched screw of a horse, but I'm not such a fool as I look, eh?

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

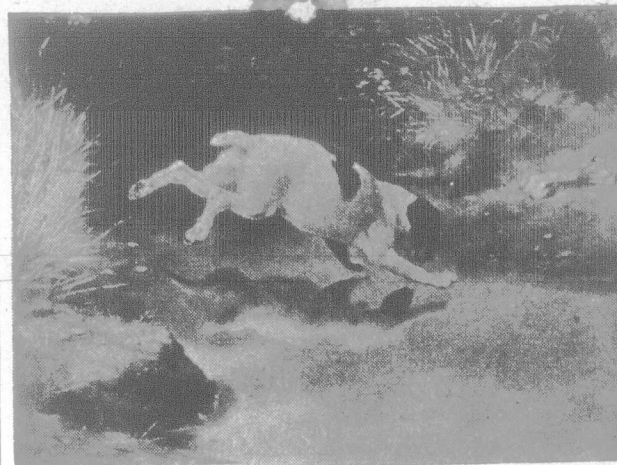
The Rev. Silas—Eh, what?

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

GOING!



GOING!!



GONE!!!



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, indeed! An' hain't I had enough of thim entirely? It's the repairs I'd be after 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 wood 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 plinks, when 'twas fittin weather;
And I would tote 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,

Oh, glorious colors, the clouds are turning:
If she would but look over hills and trees,
But here are the dishes and there is the churning,

The day grows hot and her hands grow weary;
Oh! for an hour to cool her head;
Out with the birds and the wind so cheery,

They do not know that the soul within her
Hungers for beauty and things sublime;
They only know that they want their dinner,

Her boys at school must look like others,
She says, as she mends their frocks and hose,
For the world is quick to censure mothers

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,

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.
FAIR BROTHER.

2-CHARADE.

My FIRST a "state of equality is,"
And demands nothing amiss;
To be my FIRST with cousins all,

My SECOND you'll find in Pakenham,
A first and last of three;
A note in music my THIRD is,

My WHOLE is considered useful,
In rain and shining weather;
Though used more for the latter,

LILY DAY.

3-CHARADE.

Oh! where, oh! where, is my namesake gone?
Oh! where can Harry Beck be?
He PRIME our "Dom" remain away,

THIRD fear this WHOLE boy is lost,
Or strayed away from the fold;
Oh! what SECOND awfully sad ending if so,

Say, Henry, my LAST, if dead you're not yet,
Come back, come back again;
Do not from the "Dom" remain away,

HENRY REEVE.

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,"

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;

ADA SMITHSON.

5-RIDDLE.

In quarrel and agree,
My head you will see,
My last is an eye to the door;

ADA SMITHSON.

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,

7-ANAGRAM.

Our friend and puzzler, Charlie Edwards,
Has joined the Dom again,

I'm sure his charade, for such I think it was,
(Although to it no title could I see,

But then there were other good puzzles,
Which I must not overlook,

But now, I think, my rhyming I will close
And make a bow to our great TOTAL,

8-ANAGRAM.

"A patriot's son am I," he said,
"A patriot am I, too,"
Gladly, my country, would I fight,

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,

10-PUZZLE.

I'm pleased you've come back, cousin Charlie,
Our "Dom" was lonely while you were away;

Your puzzles, indeed, were all so good,
That over them we had to ponder;

You remember we were told last year,
Not to depreciate our work;

Pray tell us who so bravely sought
The "hatch" that shut you in;

And brought you safely up on deck,
Where now you must remain,

So cousin, dear, go right along,
In whole puzzling career,

LILY DAY.

Answers to 15th April Puzzles.

- 1- A P R I L
P L A N E
R A V E N
I N T E R T
L E N T O
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, intelli-
gent 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 spheri-
cal 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 de-
scribe 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 to-
ward 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 al-
most 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, and when it begins to go down on the other
side of the earth from the sun, the bright part be-
comes 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.

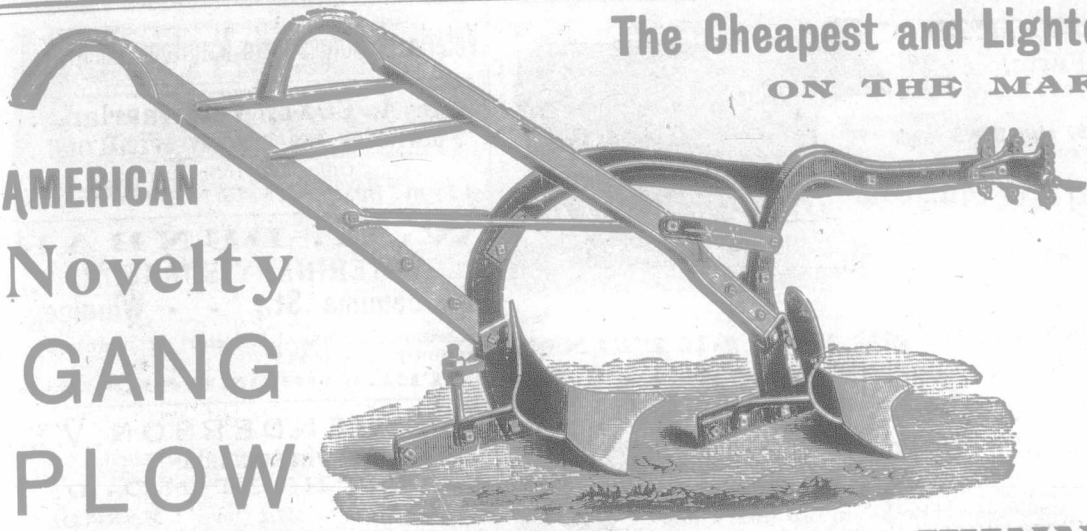
To make this still plainer, let me remind you
that when the sun is in the west the earth's shadow
must necessarily be thrown out into space toward
the east. But the crescent moon is seen in the
west, you know—how, then, could it be caused by
a shadow that is away off in the east, on the other
side of 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 lisp
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 child-
ren; friends and friends. Familiar use has robbed
it of its significance to some of us; we repeat it
automatically without much thought. But con-
sider. We are as voyagers, putting off from time
to time upon an unexplored sea. Our barks 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 unsleeping 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 house-
hold 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.

AMERICAN Novelty GANG PLOW

THE WATSON MFG. CO., Ltd., WINNIPEG, MAN.



The Cheapest and Lightest Gang Plow ON THE MARKET.

Write us direct for Prices on any kind of Farm Machinery You may require.

WE CAN Save - - You - - Money.

STOCK GOSSIP.

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

Shanks Bros., of Rapid City, write us that their Shorthorn herd has wintered well, and that they have a very fine crop of calves from Sir Ralph = 16271 =.

In another column will be seen a special offer of land in the Little Saskatchewan District, made by Alex. Stewart, Esq., Minnedosa.

Thomas Reid has recently imported the following fowls, in order to maintain the present high quality of his stock: - A Golden Wyandotte cockerel from H. Hess, Winona, Wis.;

We have received from Powell Bros., proprietors of Shadeland Stock Farm, Shadeland, Crawford County, Pa., a very handsome picture, including representatives of their large studs, herds and flocks, and the numerous barns and buildings of their immense farm.

Mr. Martin, Hope Farm, St. Jean, has sold to the Indian Department at Broadview, N. W. T., the young Galloway bulls, Henrik Itzen 8245 and Romeo 8246. These are for the use of the Indians on the Crooked Lake Reserve.

The closing-out sale of Mr. S. E. Prather's Riverdale Herd of Shorthorn cattle, at Springfield, Ill., May 3, was fairly well attended. The general average was largely reduced, because among those sold were some cows that have been most excellent breeders, but whose term of usefulness on account of old age is about over, and some young things that would not have been presented, except at a closing-out sale.

I have a fine lot of Cows and Heifers in calf, also several good Bulls now ready for service. My cattle are rightly bred, being descended from such families as GURTEAR, ORANGE BLOSSOMS and PERFECTIONS. All the females tested are good milkers.

DR. BARNARDO'S Industrial Farm, GENERAL LIVE STOCK BREEDERS. Shropshire Sheep and Berkshire Pigs for Sale.

J. A. S. MACMILLAN, Box 183, Brandon, Man., IMPORTER AND BREEDER OF PURE-BRED SHROPSHIRE SHEEP

Waghorn's Guide for May contains as usual a lot of useful information, including all railroad time tables, with distances and fares; all the post offices and stage routes; names of municipalities, with their Reeves and clerks; Customs values, etc., etc. They can be procured from any book store or news agency, at 10 cts. each.

Having in view the establishment of a large export trade in butter, cheese, eggs, etc., to Montreal and British Columbia, Prof. S. M. Barre has secured ample cold storage and other facilities at 249 King St., Winnipeg, where consignments will be received from factorymen, farmers, country merchants and others, particularly those along the Pembina Mountain branch of the C. P. R. If the trade warrants it, a weekly refrigerator car may be put on that line. Drop Mr. Barre a card for particulars regarding his project.

TROTTING STOCK OF SALE Brood Mares, Colts and Fillies.

Sired by "Quay", "Bird", "Harrowgate", "Fairy Gift", "Balaklava", "Nutbreaker", "Corbin's Bashaw" and "Bourbonnais", and from dams sired by "Princeps", "Dictator", "Egmont" and "Happy Medium". This stock was carefully selected from the best Stock Farms in the South, and everyone are young, good individuals and bred in the purple.

DORSEY & LITTLE, 414-m 175 Portage Ave. East, Winnipeg, Man.

FOR SALE - Three Stallions on easy terms, part payment taken in trade for Merchandise, Horses or Stock.

The young Thoroughbred Clydesdale Stallion HONEST JOCK, Registered No. 1719. Foaled May 23, 1890. Honest Jock is a beautiful apple bay horse, 16 hands high, with fine style and unexcelled action and finish.

RED RIVER VOLUNTEER. - Golden bay, foaled on the 10th day of July, 1887, 16 hands high, large, open gaited; fine head and neck; best of legs and feet, and promises good speed qualities. He is by Chicago Volunteer 2611; he by Volunteer 55; he by Hambletonian 10. His first dam was by the great sire Clear Grit 859, the sire of a large number in the 30 list; he by the imported thoroughbred horse, Lapidist. Second dam by Old St. Lawrence, the founder of Royal George and Toronto Chief strain. Chicago Volunteer is the sire of a large number in the 30 list, and the sire was by the greatest horse of his age, while his grandsire was the founder of the trotting horse of America. His descendants far outnumber all other families together.

SYON, 9 years old, 15 hands 3 inches high; dark bay; very heavy black mane and tail. Exceptionally handsome fellow in conformation and style, and has proved himself a sure foal getter, and has got the best stock of any horse in his class in Manitoba, which can be seen. He is by an imported Clydesdale stallion and a French mare. All these horses are imported from Ontario, and are acclimated to the country and ready for the season's business; not like horses coming to the province now, liable to sickness and disease of all sorts. For further particulars, address JOSEPH DAVIS, Portage Ave. East, Winnipeg. 40-f-m

"ROSEDALE" STOCK FARM, MANITOU, R. D. FOLEY, Proprietor, BREEDER OF Clydesdale Horses, Shorthorn Cattle, &c.

Banner Oats for sale. Correspondence solicited. 35-2-y-m

SELLING OUT THE ENTIRE HERD OF PURE-BRED BATES SHORTHORNS

At Kingswood Stock Farm. In consequence of a change in the business this magnificent herd, consisting of forty head of various ages, all registered or eligible in the D.S.H.B., will be sold in lots to suit purchasers. The young stock, including this year's crop of calves, are got by Duke of Lyndale = 13600 =. Now is your time to get choice stock at rock bottom prices, as all will be sold. Full particulars and pedigrees on application.

GREIG BROTHERS, KINGSWOOD FARM, OTTERBURNE, MAN. 35-2-y-m

PRINCE OF EASTFIELD MAKES THIS SEASON AS FOLLOWS:

Monday morning, Winnipeg, leaving at 7 k. for St. Charles, noon, (Joe Ness' stables); leaving at 14 k. over night at Headingley. Tuesday, E. A. Greathead, 32, St. Charles, for noon, leaving at 14 k. for Arctic Ice Stables over night. Wednesday, to S. Parson's, 11, 11, 4, E., for noon, leaving at 14 k. for Scott Stewart's, 13, 11, 6, E., over night. Thursday, leave at 8 k. for Dougal, noon, leaving 14 k. for Hubert Gill's, 23, 10, 6, E., over night. Friday, leave at 8 k. for Dougal, leaving at 15 k. for Arctic Farm, 5, 11, 4, E., over night. Saturday, to Arctic Ice Stables, Winnipeg, until Monday.

Terms: One, to insure, \$20; two, \$18 each; three, \$17 each; four or more, \$16 each, payable March 1st, 1894. Season, \$15, payable at close of season. Single service, \$10 cash. Mares not regularly returned charged as season mares. For full pedigree and particulars, see FARMER'S ADVOCATE, April 20, 1893.

ARCTIC ICE CO.'Y PROPRIETORS, 487 Main Street, - - WINNIPEG, MAN. JOHN VINT, GROOM, 46-a-m

"BIRTLESIDE" FARM. Maj.-Gen. H. C. WILKINSON, C.B., Prop'r. WM. DRUMMOND, Manager.

Pedigreed Imported Clydesdales, Shorthorn Cattle, and Registered Shropshire Downs. Young animals from the above stock for sale. One and a-half miles from Birtle Station, on the M. & N. W. Correspondence solicited. 30-2-y-m

FOR SALE 4 Choice Stallions.

"GROVE SLASHER" - Shire. "WILD BOY" - Clydesdale. "LANDDOWN" - Blood. "ADVANCEMENT" - Cleveland Bay.

All the above are registered, and will be sold right. For pedigrees and particulars address - T. W. PARADINE, 31-2-y-m BINS-CARTH, MAN.

PURE-BRED PERCHERONS SUPERIOR YOUNG STALLIONS NOW FOR SALE! ALSO A CHOICE LOT OF JERSEY CATTLE, Registered in A. J. C. C. Correspondence Solicited. Quality and prices right. 30-2-y-m W. H. CARPENTER, Winona, Ont.

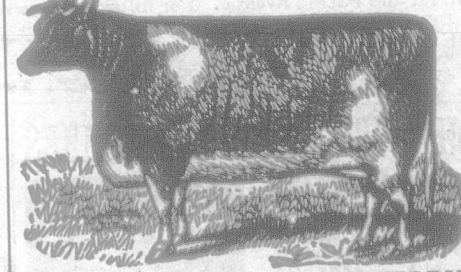
MAPLE GROVE STOCK FARM. The celebrated Holstein Bull Tempest's Captain Columbus 17430, recently advertised in ADVOCATE, is now offered to the highest bidder over \$100. Was two years old on 15th of July last. First prize winner at both exhibitions in Winnipeg; weight fully 1800 lbs., handsome in appearance, gentle as a cow, well broken to handle, surecalf getter. Bids received up till 1st June; must be sold. A chance for some one to get a well-bred, splendidly developed bull at a very low price. Reason for sale, to avoid inbreeding. 44-y-m Apply to W. J. YOUNG, Emerson.

REGISTERED JERSEY BULL FOR SALE THREE YEARS OLD, PRIZE-WINNER. PRICE REASONABLE DAVID McARTHUR, 192 Bannatine St., 44-c-m Winnipeg.

ADVERTISE IN THE ADVOCATE

FOR SALE, CHEAP. Three pure-bred Jersey Bulls (registered in the A.J.C.C.), one two years old first April. Address, J. B. POWELL, Virden, Man. 45-c-m

R. J. PHIN, Shorthorn - Breeder. A few choice young Bulls for sale. MOOSOMIN, 33-2-y-m ASSINIBOIA



PIONEER HERD OF SHORTHORNS WALTER LYNGH, Prop., Westbourne, Man. Fifteen first and one second herd prizes in sixteen years. A choice lot of young bulls for sale. 20-2-y-m

AYRSHIRES & BERKSHIRES FOR SALE.



MY BERKSHIRES are good in quality and FINELY BREED. WRITE FOR PRICES and particulars, or come and see my stock.

G. C. WELD, Box 215, WINNIPEG, MAN. 36-2-y-m

DR. BARNARDO'S Industrial Farm, GENERAL LIVE STOCK BREEDERS. Shropshire Sheep and Berkshire Pigs for Sale. 30-2-y-m E. A. STRUTHERS, Manager. RUSSELL, MANTOBA.

J. A. S. MACMILLAN, Box 183, Brandon, Man., IMPORTER AND BREEDER OF PURE-BRED SHROPSHIRE SHEEP

My stock of Breeding Ewes consists of two hundred selected from the best flocks in England. The pen of Shearling Ewes that won the champion prize over all England were out of a flock of forty that I bought from Mrs. Barr of Odstone Hall. My Rams are by the same sire as the Champion Ram, and out of ewes sisters of the dam of the Champion. I have spared neither time nor money to put together the best flock of sheep I could buy in England, and for size, quality of wool and uniformity of character, cannot be surpassed. Ram Lambs and Ewes for sale at moderate prices. 38-2-y-m

NORTHERN PACIFIC R.R. TIME CARD

Taking effect on Sunday, April 3, 1892, (Central or 90th Meridian Time).

Table with columns for NORTH BOUND, SOUTH BOUND, STATIONS, and times. Includes stations like Winnipeg, Portage Junction, St. Norbert, etc.

MORRIS-BRANDON BRANCH.

Table with columns for EAST BOUND, WEST BOUND, STATIONS, and times. Includes stations like Winnipeg, Morris, Lowe Farm, etc.

West-bound passenger trains stop at Belmont for meals.

PORTAGE LA PRAIRIE BRANCH.

Table with columns for EAST BOUND, WEST BOUND, STATIONS, and times. Includes stations like Winnipeg, Portage Junction, St. Charles, etc.

Passengers will be carried on all regular freight trains.

Pullman Palace Sleepers and Dining Cars on St. Paul and Minneapolis Express daily.

CHAS. S. FEE, H. SWINFORD, G.P. & T.A., St. Paul. Gen. Agt., Winnipeg.

MANITOBA DYE WORKS,

Gentlemen's suits cleaned and dyed equal to new. Also ladies' silks, velvets, laces, gloves, etc.

FARMERS' AGENCY

Send for price list of Groceries, Crockery and Hardware, wholesale. Dry Goods, Boots and Shoes 3% off regular cash prices.

JAMES PENROSE, Agt., Cor. Market Square and William Street, WINNIPEG.

DRINK THE "LIGHT OF ASIA" TEA

In one-pound packets at 50c., or a handsome canister of five pounds for \$2.50. The finest tea on the market. Sold only by W. H. STONE, Grocer,

STEAMSHIP TICKETS

If you are going to the Old Country, or sending for your friends, apply to your nearest railway or ticket agent, who can supply outward and prepaid tickets at lowest rates.

ROBT. KERR, Gen. Passenger Agent C.P.R., WINNIPEG.

WRIGHT & CO. Winnipeg, Man.



FARM HARNESS

Or anything in our line, call and examine our goods, or write for what you want. We do not intend to be beaten in quality of goods or prices.

COMMERCIAL BANK OF MANITOBA. Authorized Capital - \$2,000,000.

Head Office, Winnipeg. Branches in Portage la Prairie, Morden, Minnedosa, Boissevain, Carberry, Virden, Fort William and Souris.

HUGH DEALS IN TINWARE, HARDWARE AND FURNITURE.

If you are in want of a stove I am willing to spend time and trouble to secure your patronage and to keep it.

W. G. FONSECA, 705 Main Street, WINNIPEG, - MANITOBA.

Mica Roofing.

Cheaper than shingles; more durable than tin; water and fire proof; not affected by heat or cold, and quickly put on, making it the most economical roofing known.

LOOK AT THIS OFFER.

Teas at Wholesale Prices: Black Teas from 25c. to 50c. per lb.



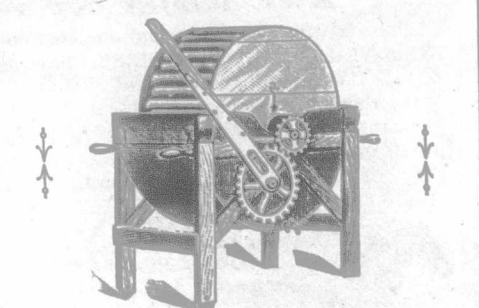
J. E. ACTON, 33-y-m 220 McDermot-St., WINNIPEG.

W.G. WILLIAMS, BUTCHER.

Always want FAT STOCK, POULTRY, And all kinds of FARM PRODUCTS

Address FLEMING & SONS, Brandon. P. O. Box 7.

MANITOBA : WASHER



WINNIPEG, March 31st, 1892.

Dear Sir, - We beg to say, in reply to enquiry of this date, that the Manitoba Washer, manufactured by you, has been used in our homes for the last two months, and has given the greatest satisfaction.

Yours truly, R. J. WHITLA, D. K. ELLIOT.

McCROSSAN & CO., W. J. GUEST,

Wholesale & Retail Dealer in Fresh and Salt Water Fish, Game, Poultry, Etc.

602 MAIN STREET, WINNIPEG.

PRINTING!

Stock Catalogues, Horse Bills, Letterheads, Business Cards, Etc.

Thirty-five hands busy at this work. Write for estimates for good work.

R. D. RICHARDSON, Cor. opposite Post Office, WINNIPEG.

THERE'S NOTHING NEW UNDER THE SUN SAID SOLOMON,

but that was before Dame Fashion ruled the world, and men and women kept pace with the civilizing forces of the age in the matter of dress.

Spring is Now Here, and the thousands of patterns of the choicest imported fabrics shown by Geo. Clements, the Winnipeg Tailor, simply testify to their harmony with the civilization of the day.

GEO. CLEMENTS, MERCHANT TAILOR, 480 Main Street, Winnipeg, Man.

\$ 2.00 per acre

will buy a few farms within six miles of the great shipping town of PORTAGE LA PRAIRIE

Other choice properties in town and vicinity cheap and on easy terms. Correspond with W. RICHARDSON,

Real Estate, Loan and Collecting Agency, Sask. Ave., Portage la Prairie. P.O. Box 753. 42-y-m

W. H. SHILLINGLAW, ARCHITECT.

Plans & Specifications Prepared for all kinds of buildings. Schools and Churches a Specialty.

FARMERS,

Now is your chance to see The World's Fair FOR NOTHING.

FLEMING & SONS, Chemists, Brandon.

are giving as a premium to the individual killing the greatest number of gophers with Fleming's Gopher Poison a Free Ticket to the World's Fair.

If your dealer does not keep it in stock send 50c. for one bottle or \$2.50 for six bottles, and we will send, post-paid, the quantity ordered and full particulars of the competition.

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 annual meeting of the American South-down Breeders' Association will be held at Springfield, Illinois, on Wednesday, May 31, 1893, at 10 o'clock a. m.

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

Mr. James A. Cochrane 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.

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

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.

Mr. James A. Cochrane 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.



ROSE'S Gopher Killer. Look Diploma at Brandon Show, 1890. Endorsed by all who use it. A. H. KILFOYLE, 16, 11, 19, collected \$7.50 bounty; after using three bottles says he killed three times as many. This is one of a number of letters we have. ROSE & CO., Rosser Ave., Brandon. Sent by mail, 50c. 46-y-m

EMPLOYMENT SITUATIONS

secured for the unemployed at TREHERNE'S EMPLOYMENT BUREAU. All who require male or female help will find it advantageous to correspond with this agency. GEORGE A. TREHERNE, P. O. Box 71, 39-p-m OFFICE: 9th Street, BRANDON, MAN.

GOING TO THE STAR DYE WORKS 9th Street, BRANDON, - MAN. Gents' suits neatly cleaned, dyed and repaired; also ladies' dresses, shawls, cloaks, etc. Satisfaction guaranteed. Prices moderate. Goods by express promptly attended to. If no agent in your town, write us direct. We want a reliable party in every locality as agent. Correspond with us. CRITTENDEN & CO., Box 128, BRANDON, MAN. 44-f-m

FREE GRANT LAND near Gainsboro, Carnduff, Oxbow, Estevan. Having resided for ten years in the Souris district, and being thoroughly acquainted therewith as a practical farmer, I am in a position to locate farms for parties who wish to take up homesteads, and will furnish full instructions of how they may be obtained and save all travelling expenses. Improved and unimproved farms also for sale. -J. W. Connell, Carnduff, Man. 41-y-om

Hackneys and Clydesdales The choicest stud of Hackneys and Clydesdales will be found at the stables of R. BEITH & CO., Bowmanville, including the 1st prize sweepstakes Hackney stallion, Ottawa, and 1st prize winner in Aged Class, Jubilee Chief. The Stud also includes a number of prize-winning Clydesdale horses and mares. R. BEITH & CO., Bowmanville. 330-f-om SHIRE HORSES.—A grand young imp. stallion for sale at a low figure. IMPROVED YORKSHIRES.—Young stock of all ages at farmers' prices. WHITE HOLLAND and BRONZE TURKEYS.—Orders booked for young birds for fall delivery. Correspondence solicited. Prices on application. 318-2-y-om WM. MULLEN, Hillsburg, Ont.

D. & O. SORBY, GUELPH, ONTARIO, BREEDERS AND IMPORTERS OF FASHIONABLY BRED CLYDESDALES We always have on hand a large number of imported and home-bred Clydesdales (male & female) of good breeding & quality, which we will sell at honest prices. Our specialties are good & well-bred horses and square dealing. Come and see us or write for particulars. 330-2-y-om

FOR SALE. Imp. CLYDESDALE Station, by McCammon. HUGH THOMSON, Drawer D, St. Marys. 328-2-b-om

NONE BUT THE VERY BEST ARE KEPT AT ISALEIGH GRANGE.

This is what we claim and our customers endorse. GUERNSEYS, SHROPSHIRE AND IMPROVED LARGE YORKSHIRES. Seventy-five beautiful ewes in lamb to our imported rams, winners at England's greatest shows. In Yorkshires we imported last year the cream of the English winners at the Royal, the Liverpool and Manchester, and the Royal Cornwall and other large shows, including the first-prize boar at the Royal. Do not forget that like produces like, and send in your orders for young pigs early. Address, 333-y-om J. Y. ORMSEY, Manager Isaleigh Grange Farm, Danville, P.Q.

ROBERT NESS, WOODSIDE FARM, Importer & Breeder of Yorkshire Coachers, French Coachers, Clydesdales, Shetlands and Ayrshire Cattle. Prices to suit the times. ROBERT NESS, Woodside Farm, Howick P.O., P.Q. 329-y-om

SCOTCH-BRED SHORTHORN BULLS Scotch-Bred Heifers, Imported Shropshire Rams, Imported Ewes, Home-bred Rams, Home-bred Ewes. FOR SALE! In any number. All of very best quality, and at the lowest prices. We want 500 recorded rams for ranches. Correspondence Solicited. John Miller & Sons Brougham, Ont. Claremont Station, C. P. R., 22 miles east of Toronto. 306-2-y

MAPLE SHADE Stock Farm. I now offer superior young SHORTHORN BULLS at reasonable prices. For full particulars address, JOHN DRYDEN, 314-2-y-om Brooklin, Ont. New Importation! ARTHUR JOHNSTON, Greenwood, Ont.

DEEP MILKING SHORTHORNS. WM. GRAINGER, Lonsdale, Ontario, offers for sale, a yearling bull, and a three-year-old heifer in calf, of the best milking strain of Shorthorns in Canada; both registered and good colors; dams made 30 lbs. of butter in seven days on grass. COME AND SEE THEM. THEY ARE GOOD ONES. 319-2-y-om THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIANS. SMITH BROS., Credit Valley Stock Farm, CHURCHVILLE, PEEL COUNTY, ONT., (24 miles west of Toronto).

HOLSTEINS & YORKSHIRES None but the best are kept at BROCKHOLME FARM, Ancaster, Ont. R. S. STEVENSON, Proprietor. Write me for prices if you want first-class stock at moderate figures. Holsteins in the advanced registry. 319-2-y-om

Bow Park Herd OF PURE-BRED SHORTHORNS Have always on hand and for sale young Bulls and Females, which we offer at reasonable prices. ADDRESS— JOHN HOPE, Manager, 303-2-y Bow Park, Brantford, Ont. SCOTCH-BRED SHORTHORNS FOR SALE 6 Choice Young Bulls And the Imported Cruickshank Bull ABERDEEN HERO, Their sire. Also some nice Young Heifers, From one year old up. Prices to suit times. 322-2-y-om SHORE BROS., White Oak.

Shorthorns, Coach Horses and Berkshires. Our herd is headed by Daisy Chief=13674=, he by the famous Indian Chief=1108=, and was highly successful in the various Western Ontario fairs of the past season. A few choice young Bulls and Heifers for sale. Also registered Berkshires and a few extra choice Cleveland Bay mares and fillies, the get of Disraeli, Dalesman, etc. Write for prices, or come and see us. A. J. C. SHAW & SONS, Camden View Farm, Thamesville. 318-2-y-om

Shorthorns & Berkshires. Some good, thrifty young stock of both sexes on hand for sale. Write for prices. 321-2-y-om JNO. RACEY, Jr., Lennoxville, P.Q. If you want a well-bred Shorthorn Bull for use on Grade Cows, or a Heifer to start a herd with, at a price that your pocket can stand, write me. I can suit you. C. G. DAVIS, Woodlands Terrace Farm, Freeman P.O., Ont. 318-2-y-om SHORTHORN HEIFERS A few extra good ones for sale, "Matchless" and "Minas," by Imp. General Booth (64353), that noted sire of prize-winners. Prices right, terms reasonable. Apply to W. J. BIGGINS, Elmhurst Farm, Clinton, Ont. 319-2-y-om

SMITH BROS., Credit Valley Stock Farm, CHURCHVILLE, PEEL COUNTY, ONT., (24 miles west of Toronto).

This is the place to get stock of best quality at reasonable prices. We have seventy-five head, including prize-takers: best strains, cows and heifers, with large milk and butter records; young bulls of superior quality. Send for catalogue. 332-2-y-om

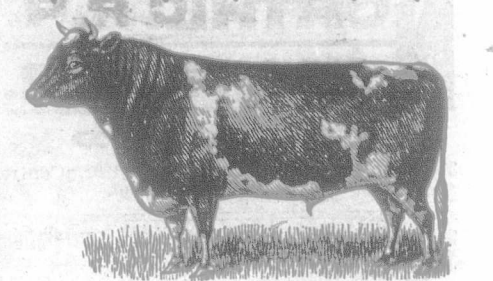
Holstein-Friesians OF THE CHOICEST MILKING STRAINS. Extra individuals of both sexes for sale. J. W. JOHNSON, 326-2-y-om SYLVAN, P.O.

HOLSTEIN-FRIESIAN CATTLE Netherland, Aegie and Artis blood, along with others all of the best strains of producing blood. Write for particulars. Young Bulls and Heifers of the above tribes on hand. A grandson of Netherland Prince now for sale. G. W. CLEMONS, 334-2-y-om St. George, Ont.

Holstein-Friesians. Owing to an important change in business, our herd will be reduced one-half. Stock the choicest. Breeding the highest, and prices the lowest. All young stock bred from Silver Medal and First Prize-winning stock. Send for our new catalogue. New Dundee P.O., Ontario. A. C. HALLMAN & CO. 318-2-y-om

HOLSTEIN-FRIESIAN -:- STOCK We have on hand now more than 40 head of this great dairy breed of cattle selected for practical dairy purposes. We keep only the best butter and milk strains, and none but pure-bred, pedigreed animals. We offer for sale at moderate prices choice young stock, male or female. E. M. S. & C. S. MOTT, The Gore Farm, Box 35, Norwich, Ont. 318-2-y-om

DOMINION PRIZE HERD OF AYRSHIRES



We have the oldest established, largest and best herd of Ayrshires in Canada. Choice young stock for sale at liberal prices. Satisfaction guaranteed. JAMES DRUMMOND & SONS, Petite Cote, Montreal, P.Q. 332-2-y-om

Prize-Winning AYRSHIRES FOR SALE.

I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand. MAGGIE OR ROCKTON

JAS. McCORMICK & SON, ROCKTON, ONT. 323-2-y-om

PRIZE-WINNING AYRSHIRES FOR SALE



Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address THOMAS GUY, Sydenham Farm, Oshawa, Ont. 326-2-y

THE MAPLE CLIFF STOCK FARM. For Sale—A grand four-year-old Ayrshire Bull, winner of 2nd prize at Montreal last fall. Bronze Turkey eggs, \$4 for 11 eggs. R. REID & CO., One mile from Ottawa, Hintonburg, Ont. 324-2-y-om

INGLEDALE FARM, WINONA, ONT.

JONATHAN CARPENTER offers for sale at very reasonable figures a number of very fashionable bred Jerseys, bulls and heifers, of all ages; also standard-bred colts and fillies from such sires as Gen. Stanton, sire of thirteen in the 30 list, and Almont Wilkes, trial in 2:16. "Good individuals with gilt-edged pedigrees." Come and see them. 319-2-y-om

JERSEYHURST FARM, MARKHAM, Ont. ROBT. REESOR, importer and breeder of A. J. C. C. Jerseys of the choicest breeding, with the St. Helier bull Otolie 17219 at the head of the herd. Stock of all ages on hand and for 320-2-y-om

GLEN ROUGE JERSEYS! WM. ROLPH, Glen Rouge Farm, Markham, Ont., offers for sale Jerseys of all ages from his famous herd. The world-renowned St. Lambert blood a specialty. Also registered Clydesdale Horses. 321-2-y-om

THE PARK HEREFORDS!

Won more prizes in 1891 and 1892 than any others in Toronto, Montreal and Ottawa, and both years were awarded first and second prizes for herds at the above places. These are the ONLY HEREFORDS chosen to represent Ontario at the World's Fair. F. A. FLEMING, Proprietor, 331-f-om WESTON, ONTARIO.

HEREFORDS, STANDARD-BREDS AND YORKSHIRES.—Headquarters for the famous Tushingham blood. Tushingham (19450) sold for \$5,000. Also standard-bred colts and fillies and pedigreed Yorkshires. 321-2-y-om J. W. N. VERNON, Waterville, P.Q.

Ingleside -:- Herefords.

Herd headed by the Medal Bull of Canada, Young Tushingham 2nd (32398). All stock registered and from prize-winners, combining the desirable blood of HORACE ANXIETY THE GROVE 3rd, BRADWARDINE. Choice young stock of the above strains for sale at reasonable prices.

IMPORTED CLYDESDALES. Prince of Wales and Darnley strains. Saddle horses and stylish drivers for sale. Station H. D. SMITH, two miles, G.T.R. Ingleside Farm, COMPTON, Que. 321-2-y-om

ADVERTISE IN THE ADVOCATE

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

Branch Office: 141 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 the material or erect 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. OR— 141 KING ST., LONDON, ONT.

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. 333-y-om

DELAVAL CREAM SEPARATORS

Fully Guaranteed Superior to any other Separators in the World.

SEND FOR CATALOGUES, TESTIMONIALS, ETC.

FRANK WILSON, 38 St. Peter St., MONTREAL. 331-f-om

THE WORTMAN & WARD MFG. CO.'S SPADE HARROW

The Best Pulverizer! The Best Cultivator! And The Best Harrow Ever Made.



It has no equal for pulverizing hard clay lumps. It is beyond question the best machine for making a seed bed on inverted sod for preparing fall plowing for spring seeding, especially in heavy clay soil, where the land is baked or become hard and difficult to move. For cutting up and pulverizing any kind of stubble land, either for the purpose of starting foul seeds or fitting for seeding. It is unquestionably far superior to anything in the market for cultivating any kind of land that is very difficult to subdue. Where every other tool has failed the Spade Harrow will be found to be just the machine needed. We also manufacture the "Daisy" Barrel Churn, Cistern, Well, Force and Wind Mill Pumps, Horse Hay Forks, McKay's Patent Combination Sling. Prices and terms given on application. Address—

THE WORTMAN & WARD MFG. CO., LONDON, 332-d-om ONTARIO.

THRESHERMEN OF THE PRAIRIE PROVINCE!

ADVANCE TO FAME AND FORTUNE BY BUYING AND RUNNING A

TORONTO ADVANCE

BUILT BY

JOHN ABELL, ENGINE AND MACHINE WORKS, TORONTO, 45-j-m

Orders taken by FROST & WOOD, Winnipeg, and G. H. SMITH, Brandon.

Why Don't You Buy A SEPARATOR?

AND SAVE 25 PER CENT. OF YOUR CREAM INSTEAD OF FEEDING IT TO PIGS.

We are the Western Agents for the **ALEXANDRA AND BURMEISTER & WAIN** DANISH SEPARATORS of all sizes and description.

ASK FOR THE BEST **MOUNTAIN SPRUCE TUBS** In 10, 20, 30 and 50 lbs. Cheese Box Material, & Dairy Salt.



SEND FOR CATALOGUE AND PRICE LISTS

DOMINION DAIRY SUPPLY CO'Y S. M. BARRE, Agent, 249 King St., WINNIPEG, MANITOBA. 46-b-m

HAZELTON FRUIT & POULTRY FARM

PLYMOUTH ROCKS Unsurpassed in America.

Eggs, \$2.00; guaranteed.

Elegant Illustrated Catalogue for '33 gives all particulars and information. Sent free.

C. W. Eckardt, Ridgville, Ont. U. S. BRANCH—Brookside Poultry Farm, Columbus, N.J. 327-y-om

ADVERTISE IN THE ADVOCATE

PAINT:

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 1842. Leads, Colors, Varnishes, etc. 331-y-om

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. Leghorns, and Bronze Turkeys. 300 Toms and Hens, sired by 44 and 47 lb. Toms. 500 Cock's, pairs, trips and pens, mated for best results. Valuable illustrated circular, free. **F. M. MUNGER, DeKalb, Ill.** 328-2-y-om

WANDERER: CYCLES the wheels for Canadians. 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 \$8 bush. of 60 lbs. **George J. Thorp, Seedsman, Guelph, Ont.** 333-d-om

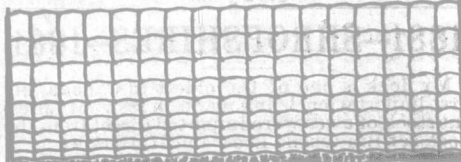
UN-NERVED, TIRED

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.,** MONTREAL. Beware of Imitations. 334-2-y-om

THRESHING MACHINES AND HORSE-POWERS (One, Two and Three-Horse).



OLDS' PATENT. The best Tread Horse-Powers and Threshing Machines made. Take the lead wherever introduced. Also Drag and Circular Saws and Ensilage Cutters. Agents wanted. **JOHN LAF-MONTH & Co.,** Manufacturers, Pt. St. Charles, Montreal, P.Q.; **E. G. Prior & Co.,** Agents, Victoria, B.C.; **A. L. Gruggen, Agent,** Mossmine, N. W. T. 334-j-om



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

Complete Manhood

AND HOW TO ATTAIN IT.

A Medical Work that Tells the Causes, Describes the Effects, Points the Remedy.

Scientifically the most valuable, artistically the most beautiful medical book ever published; 96 pages, every page bearing a half-tone illustration in tints. Subjects treated:—

Nervous Debility, Sterility, Impotence, Development, Varicocele, The Husband, Those Intending Marriage, etc.

Every man who would know the Grand Truths, the Plain Facts, the Old Secrets and New Discoveries of Medical Science as applied to Married Life, who would atone for past follies and avoid future pitfalls, should write for this **WONDERFUL LITTLE BOOK.** It will be sent free, under seal, while the edition lasts. Address the publishers,

ERIE MEDICAL CO., Buffalo, N.Y. 333-y-om

FRUIT EVAPORATOR

THE ZIMMERMAN The Standard Machine Different sizes and prices. Illustrated Catalogue free. **THE BLYMYER IRON WORKS CO., Cincinnati, O.** 331-1-y-om

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

Manufactured Specially for Spraying Poisonous Liquid on Fruit Trees.



Is Absolutely Necessary for every Fruit Grower.

The only effective means of destroying the Aphis 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 Lic.)** Mention this paper. (329-1f-om) Toronto, Ont.

IF WE WERE TO USE

SHANNON

Letter and Bill Files

KEEP PAPERS SECURE.

— MADE BY —

Office Specialty Mfg. Co.
118 Bay Street,
TORONTO, - ONTARIO.

Office Desks, Cabinets, Chairs, Book Cases, School Furniture, Metal Roller Shelves—all labor-saving office devices.

No. 4 A File, - - \$2.00
Book Racks, - - - 1.25

Sold by all stationers.

Send for Catalogues and Circulars. 332-c-om

SEEDS

WILLIAM EVANS,
Seedsman to the Council of Agriculture for the Province of Quebec, importer and grower of
Field, Garden, Flower Seeds,
AGRICULTURAL IMPLEMENTS,
Guano, Superphosphate and other Fertilizers.

WAREHOUSES: Nos. 89, 91 and 93 McGill-St.;
Nos. 104, 106 and 108 Foundling St.,
and 42 Norman Street.

MONTREAL.

Orders respectfully solicited. French and English catalogues on application. 332-d-om

W. & F. P. CURRIE & Co.
Wholesale General Merchants,
100 GREY NUN ST., MONTREAL

IMPORTERS OF
Scotch Glazed Drain Pipes, Chimney Tops,
Vent Linings, Flue Covers, Fire Bricks,
Fire Clay, Portland Cement, Roman
Cement, Canada Cement, Water
Lime, Whiting, Plaster of Paris,
Borax, China Clay, etc., etc.

MANUFACTURERS OF BESSEMER STEEL
SOFA, CHAIR - AND - BED - SPRINGS
A LARGE STOCK ALWAYS ON HAND.
WM. CURRIE. 331-y-om F. P. CURRIE.

THE GODERICH ORGAN CO.
GODERICH, ONTARIO.
MANUFACTURE THE PIANO CASE

ORGANS

EVERY DEALER SHOULD WRITE FOR PHOTOS AND PRICES

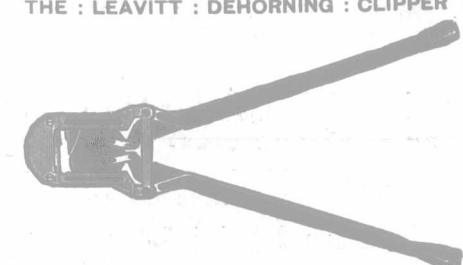
WE LEAD THEM ALL IN STYLE TONE & FINISH

AGENTS WANTED IN EVERY TOWN

319-2-y-om

DRS. ANDERSON & BATES, Surgeons of the Eye, Ear, Throat & Nose, 34 North James St., Hamilton, and 6 College St., Toronto. Sole agents for Prof. North's Earphone for the incurable deaf. A large assortment of artificial eyes on hand. 324-2-y

THE : LEAVITT : DEHORNING : CLIPPER



Takes any horn off in one-tenth of the time required with saw. Circulars, giving full description, testimonials, price, etc., on application. S. S. KIMBALL, P. O. Box 945, Sales Room 577 Craig Street, MONTREAL, P. Q. 332-f-om

ONTARIO VETERINARY COLLEGE
Temperance Street, Toronto.

The most successful Veterinary Institution in America. All experienced Teachers. Session begins October 21st. Apply to the principal, PROF. SMITH, V.S., Edin., Toronto, Can. 273-2-y

GOOD CROPS OR POOR CROPS,
Which Shall it be for 1898?

Niagara, Jan. 27th, 1898.
Dear Sir,—Having given your "Bone and Potash" a fair trial with most satisfactory results, I have much pleasure in adding my testimony to its excellence as a fruit producing fertilizer. I have used it at the rate of 5 lbs. per tree in full bearing. I have placed in the hands of Mr. Gage my order for eight tons, an increase of two tons on order of last year. Respectfully,
(Signed) J. H. BENN.

Niagara, Jan. 27th, 1898.
Dear Sir,—Used your potato manure last year, and am well pleased with it. We used on one piece one sack with manure per acre, on another two sacks with manure, and a small piece without manure, but with fertilizer at the rate of three to four bags per acre. The manure plots had at the rate of twelve to twenty loads per acre. The largest yield was received from the plot where fertilizer alone was used.
(Signed) A. C. HOWE.

Send for **FREEMAN'S NEW CATALOGUE,**
Treating on Manuring and how to grow large and paying crops.
— SENT FREE BY ADDRESSING —
W. A. FREEMAN, HAMILTON, ONTARIO.
Please mention this paper. 335-a-om

34,000 CHATHAM MILLS NOW IN USE

1,000 MILLS SOLD IN 1884.	3,600 MILLS SOLD IN 1889.
1,330 MILLS SOLD IN 1885.	4,000 MILLS SOLD IN 1890.
2,000 MILLS SOLD IN 1886.	4,500 MILLS SOLD IN 1891.
2,300 MILLS SOLD IN 1887.	5,000 MILLS SOLD IN 1892.
2,500 MILLS SOLD IN 1888.	And 3,600 Baggers.

More than have been sold by all the other factories in Canada put together and doubled. Over 16,000 Bagging Attachments now in use.

Bagging Attachment is run with a chain belt that cannot slip. The elevator cups are also attached to endless chain belt that cannot slip nor clog. Cleaning Alsike clover & Blace Eye and Marrowfat peas a special feature. The Mill is fitted with screens and riddles to clear and separate all kinds of grain and seed, and is sold with or without a Bagger, but it is not wise to do without a Bagger. Satisfaction guaranteed. Send for Catalogue and prices.

MANSON CAMPBELL, 334-a-om CHATHAM, ONTARIO.
Forty-five Carloads Sold in Ontario since January 1st.

THE CORBIN PATENT TEMPERED DISK

Every Slicer Disk in the Corbin Harrow and the Corbin Drill is stamped exactly like the words in the circle surrounding this. If not so stamped, it is not genuine and is not tempered.

The Ball Bearings and Tempered Disks in the Corbin Harrow make it capable of cultivating

TEN THOUSAND ACRES (10,000).
None other will bear one-half this work.

The Corbin Patent Tempered Disk is hardened on the cutting edge and is soft-centered.

J. S. CORBIN,
Prescott,
Ont.
331-d-om

The Dale PIVOTED LAND ROLLER
(PATENTED.)

A STEEL ROLLER, THE DRUMS OF WHICH OSCILLATE ON PIVOTS AND ADAPT THEMSELVES TO THE UNEVENNESS OF THE GROUND.

Its points of advantage are too many to enumerate. Some of them are :

The bearings are the only wearing parts and are guaranteed to last from Ten to Fifteen Years, and can be replaced at a nominal cost.

It rolls all the ground, no matter how rough. There is no axle shaft, no strain, and consequently no wear. It is easily oiled between the drums.

THE DEMAND IS STEADILY INCREASING. IT IS UNANIMOUSLY RECOMMENDED BY THOSE FARMERS WHO HAVE USED IT.

Orders are now being booked for the spring trade. Description and price furnished on application to

T. T. COLEMAN,
SOLE MANUFACTURER, 320-2-y-om SEAFORTH.

FARM : WAGONS
IT IS THE CELEBRATED



Brantford Bain WAGON

THAT IS GIVING UNIVERSAL SATISFACTION TO THOUSANDS WHO ARE USING THEM.

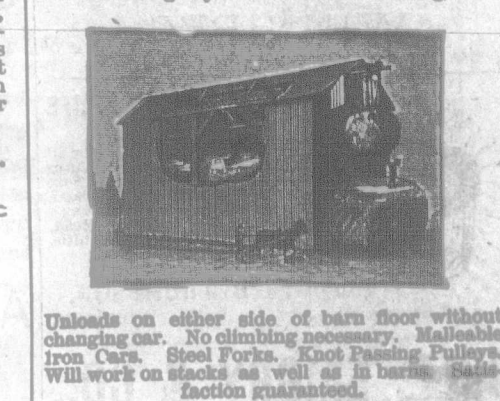
Special Features EXTRA FINISH, LIGHT RUNNING, GREAT STRENGTH, AND DURABILITY.

OUR OTHER LIVES:

- Heavy Log Trucks,
- Farm Trucks,
- Celebrated "Moses" Farm Truck,
- One-Horse Wagons,
- Farm Dumps, Carts, Etc.

Correspondence solicited. Address to
BAIN BROS. MFG. CO., Ltd.
236-2-y-om BRANTFORD, ONT.

BUCHANAN'S
(Malleable Improved)
PITCHING MACHINE
For unloading hay and all kinds of loose grain.



Unloads on either side of barn floor without changing car. No climbing necessary. Malleable Iron Cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.

The Common-Sense Sheaf-Lifter
Works in connection with Pitching Machines, and is the most complete apparatus ever offered to the public for pitching sheaves. Sheaves left in the mow just as they come from the load.

RESPONSIBLE AGENTS WANTED
Circulars, Prices and Terms on application to
M. T. BUCHANAN, Ingersoll.
331-f-om

PILES Radically Cured.
W. E. BESSEY, M.D., C.M.,
200 JARVIS STREET, TORONTO.
SPECIALTY.—Official Surgery, Piles & Rectal Diseases, Stomach and Intestinal Disorders, Chronic and Nervous Diseases, Genito-Urinary Affections, and Diseases of Women. Private Hospital, with trained nurses. 329-y-om

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.
330-lf-om

FOWELL'S PAT'D MILK ABATOR
AND CAN best in America. Send for circular. H. FOWELL, Belleville, Ont. 330-2-d-om

WANZER PURE SOAP CO.

Hamilton, Ontario,
— MANUFACTURE —

LAUNDRY & BATH SOAPS

which are absolutely free from adulterations. Will not shrink flannels; will not injure clothes; will wash with half the labor; will heal chapped hands; and for house-cleaning, painted wood-work and floors, are perfection. Try it and be convinced.

WANZER PURE SOAP CO.,
Hamilton, Ont.
332-2-6-0-m

Barbed Wire

PRICES

. . . THIS

. . . SEASON

AWAY DOWN

J. H. ASHDOWN,
WINNIPEG.
44-f-m

ELECTRICITY is LIFE
HEALTH, WEALTH.
Electric Appliances for all parts of the body. Cures Rheumatism, Dyspepsia, Sore Eyes, Sciatica, Lumbago, Kidney trouble, Weak Limbs, Neuralgia, Catarrh, Head, ache, Asthma, Bronchitis, Chronic Colds, etc.
General Agent,
R. B. THOMPSON,
Winnipeg.
57-y-m

COLE, EMORY & CO.,

MERCHANT TAILORS

Woolen Merchants
506 Main Street . . . WINNIPEG,
(Near City Hall.)

Our travellers frequently call at most points on railroads. Write for samples. 44-y-m

LIVE STOCK INSURANCE.

NORTHWESTERN LIVE STOCK INSURANCE COMPANY
OF DESMOINES, IOWA.

PAID-UP CAPITAL . . . \$100,000.00.
Its policies protect the owners of valuable animals against loss from death from any cause, including the hazard of campaigning and transportation or otherwise.

G. L. IRWIN,
General Agent Manitoba, P. O. Box 518,
WINNIPEG. 45

ARE YOU BUILDING?

If so, economy in fuel, comfort, convenience and fire protection are important considerations. The McRobie Soot Door Ventilator and Check Draft is approved of by architects and recommended by contractors as the most useful combination for the purpose in the market. It should be in every building. For full particulars, prices, etc., see your local merchant, or address

CAPT. W. O. McROBIE,
42-f-m 44 Dagmar St., Winnipeg, Man.

CHESTER & CO., SEEDSMEN,
535 Main Street, Winnipeg.

OUR FRESH GARDEN & FIELD SEEDS
are now arriving and will be found as heretofore, reliable. 46-a-m

FACTS BEYOND CONTRADICTION!

As some advertiser appears to be in error with regard to my business and business dealings, I feel necessitated to state:

1. That I have three plots of ground at the present time on which I grow and test my seeds. This ground is not my customers, but belongs to me, and is used exclusively for seed-testing purposes.

2. My establishment is the largest and most complete of any one of its nature in Winnipeg, and more than four times the size of that of the shameless advertiser, whose egotism makes one blush.

3. That we throw more plants on the rubbish pile than the same advertiser grows or knows how to grow.

4. That we are at least modest enough to confine ourselves to the truth, and not deliberately prevaricate every time we advertise.

5. That we are willing to allow any competent person to judge between the two catalogues as to which is the most comprehensive, and who can supply the goods he has got listed in said catalogues. We would not demean ourselves by instituting comparisons between the two establishments.

6. As regards the quality of seeds we send out, and the reliability of which had been questioned by the same advertiser, I state that as we carry no old seeds over from last year we cannot sell below wholesale price, as this egotistical advertiser does, and who evidently forgets the fact that some varieties had risen in price this year. The moral is easy to see. Send your address for my catalogue of Plants, Bulbs, Seeds, Flowers, Canary Birds and Bird Novelties. (See January 20th issue, page 40.)

Address, **RICHARD ALSTON,**
ROYAL GREENHOUSE,
WINNIPEG, MAN.
37-y-m

Seeds THE RIGHT SORTS.
Fresh & Reliable.

Onion Seed 10 to 20 per cent. lower than others. Other seeds lower in like proportion. Compare our Catalogue with others as to prices and sorts. Look at our list of Sweet Peas and Pansies. Then send to

A. BOWERMAN,
241 Portage Ave., Winnipeg.
41-f-m P. O. BOX 956.

MAIN CROP POTATO!
FORT ROUGE WHITE KIDNEY.
A White Kidney Potato which, after two years' testing, we consider to be the best of the white potatoes in the market. It is a robust grower, very prolific. Main-crop variety. Tubers are smooth, good table qualities; flesh pure white. Price, 20c. per pound, post-paid; peck, 50c.; bushel, \$1.50.

BOARDING HOUSE,
Winnipeg, Sept., 1892.

GENTLEMEN,
The potatoes (White Kidney, "Fort Rouge") purchased from you are excellent; table qualities good; indeed, it is the best flavored potato I have ever tasted. Yours truly,
L. W. MARWOOD.

FORT ROUGE GREENHOUSES
WINNIPEG.

BRAXTON & BOWYER, Proprietors.

CLOVER, TIMOTHY, HUNGARIAN, MILLET

— AND ALL KINDS OF —

GRASSES AND SEEDS

FRESH AND RELIABLE.

More Extensive than ever.

Send address for large, handsome & useful

1893 Catalogue—1893.

J. M. PERKINS,
46-a-m 241 Main St., WINNIPEG.

H. S. WESBROOK
DEALER IN
AGRICULTURAL IMPLEMENTS



COMMISSIONS EXECUTED — CORRESPONDENCE SOLICITED
H. S. WESBROOK, WINNIPEG, MAN.

ANDERSON & CALVERT,
AGRICULTURAL IMPLEMENTS

Cornell Engines, Advance Separators, Monarch Separators, FULL LINE OF PLOWS, WAGONS, ETC.

MOODY & BOYD'S 3 and 6 Horse Powers and Separators.
OFFICE: 144 Princess St., Winnipeg P.O. Box 1319.
33-2-y-m

W. M. BELL | MAIN STREET 288 WINNIPEG, MANITOBA, (CORNER GRAHAM.)

DRY GOODS

Ladies' and Gents' Furnishings always on hand. A full and varied stock of Staple and Fancy Goods. Orders by letter and in person from our country friends given special attention. We have everything in stock to suit the farming community. Our stock will be found complete, and in prices cannot be undersold.
WILLIAM BELL, 288 MAIN ST.
39-y-m

I consider THE TRIBUNE the best paper in the province.—J. W. Sparling, Beulah.
I would not do without THE TRIBUNE for twice the amount.—Paul Kelsey, DeClare, Man.
Your paper ought to find its way weekly into every home in the Northwest.—J. Nelson, Napinka.
The above are sample extracts from hundreds of similar letters received every week at THE TRIBUNE Office.

50 CENTS
Secures THE WEEKLY TRIBUNE, the largest and best paper in the Northwest, from now to January 1st, 1894. A splendid portrait FREE to every subscriber.
A great offer indeed.
Address—
THE TRIBUNE PUBLISHING COMPANY, WINNIPEG, MAN.
14-y-m

IF YOU WANT

HORSE BILLS, ROUTE CARDS,
Or any other printed matter, write to
THE BUCKLE PRINTING CO., 146 Princess Street, WINNIPEG, MANITOBA.
40-y-m

AYRES' TENNIS GOODS
AND OTHER

HINGSTON SMITH ARMS CO.
WINNIPEG.

NEW CATALOGUE
NOW READY.

ALL KINDS OF SPORTING GOODS:
Cricket, Tennis, Base Ball, Foot Ball, Polo, Etc.
GUNS, RIFLES, AMMUNITION, ETC.

THE HINGSTON SMITH ARMS CO.,
WINNIPEG.
(Mention this paper.) 44-f-m

THE HOLSTEIN-FRIESIAN REGISTER
OFFICIAL PAPER OF THE BREED.
SENT FREE ONE YEAR.
Write for Sample Copy.
F. HOUGHTON, BOSTON, MASS.

PATENTS procured in all countries. Expert in patent cases. Correspondence solicited. 25 years' experience.
W. BRUCE, 17 1/2 King St., East, Hamilton, Ontario.
328-g-om