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# FARMER'S ADVOCATE

AND HOME MAGAZINE.

FOUNDED 1866.

VOL. XX.

LONDON, ONT., DECEMBER, 1885.

Whole No. 240.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

### 1885-1886.

"Advance" is the proper password. While our eyes are looking forward, our memories may with pleasure and profit turn to the past. The present is a suitable time for reflection.

This will close the last number of the 20th volume of your ADVOCATE. What changes have we seen—what trials and temptations have we passed! Whom should we thank for the past mercies and blessings?

Your ADVOCATE is still left with every stitch of canvas set, with a full head of steam on, and its time-worn and still sound flag unfurled. She makes her regular monthly trips to your homes, to England, Australia, etc., etc. She has been a safe vessel to travel by; twenty years of navigation among the rocks and breakers under the same captain, never calling for a tow-line in the form of a Co., or liquidation, is perhaps remarkable in this age. We are thankful to inform you that we feel as if we had thus far done our duty to you as well as opportunities and circumstances have allowed us. When we look over the country and see so many of the best products raised and plans carried out from information first furnished by the ADVOCATE, it is highly gratifying. We much regret to see the many wrecks visible along our wake. We never commenced the publication of this journal with any idea or attempt to run that old and once the best of agricultural papers, the *Canada Farmer*, off the track. We regret its demise, and there is no man in Canada, nor was there at the time of its death, one with whom we could shake hands

with greater warmth than its proprietor. Despite his eccentricities we believe he had a higher sense of honor in him than is in the average politicians of the day. The decease of the Hon. G. Brown and his paper cannot be laid at our door, nor his own. Had some of our Government officials paid more attention to the remarks that have from time to time appeared in this journal, and

the still more important information we have from time to time telegraphed and written to them, they might be able to say as we can in regard to stock diseases, "these hands are clean." The Provincial Board of Agriculture may have taken some of our criticisms in the wrong light; the criticisms we know were severe, but not more so than the cases deserved, and they were not severe enough to cause them

ting proclivities, which must be expunged from the order before it will attain the power that it might or may have.

The expenditures made by the Dominion and Provincial Governments, nominally for agricultural advancement, but being in reality used for partisan purposes, have been exposed, and must be remedied before good can be accomplished by such expenditures. The demise of

Professor Buckland and his circumstances should be regretted and known to every farmer, as he was the only living person last year that expended his time and means in establishing the first Provincial Exhibition. The dairy, stock and fruit interests have been more profitable than raising cereals for the past few years, and prices appear to indicate that they are likely to be so for some time to come.

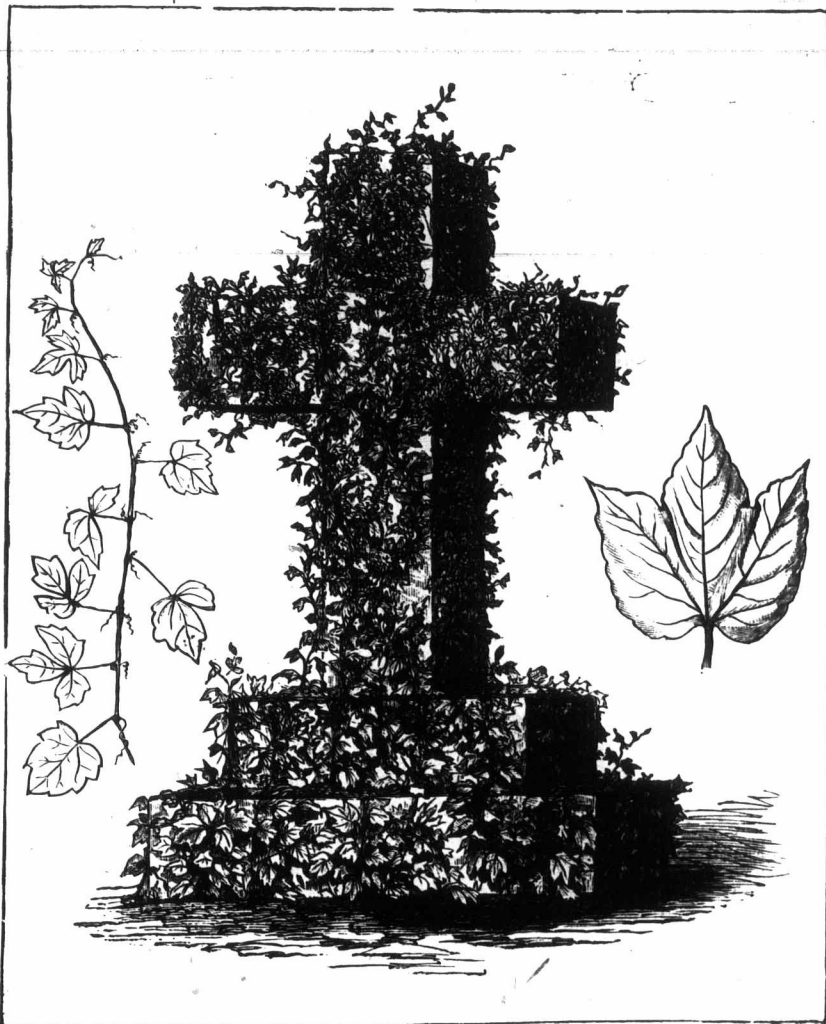
This, the 12th number of the 20th volume, may be the last number that many of you will see. Father Time has swept off many of those that received your ADVOCATE twenty years ago. We must now bury the past, in which all may have erred in omissions and commissions, and hope for improvements in the future. We return our thanks to all that have in any way, by word or deed, aided us in building up the ADVOCATE to its present size and giving it such a large circulation, and trust we have merited your continued support.

SIR,—Please find enclosed the sum of one dollar. I have taken the FARMER'S ADVOCATE for fifteen years, and I think it is every farmer's duty to take it,

as it is the only paper in Canada that works for our interest, fearless of friend or foe. I must say you have made great improvements in it from year to year. I would not be without it.

JONATHAN GRAHAM, Drumbo, Ont.

We are pleased to receive Mr. Graham's encouraging letter, and would say this is but a fair sample of many we are constantly receiving.



AMPELOPSIS VEITCHII, OR JAPAN IVY. See page 354.

## THE FARMER'S ADVOCATE —AND— HOME MAGAZINE.

WILLIAM WELD, EDITOR AND PROPRIETOR.

The Leading Agricultural Journal Published  
in the Dominion.

The FARMER'S ADVOCATE is published on or about the 1st of each month. 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 or stockmen, of any publication in Canada.

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390 Richmond Street,  
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### Our Monthly Prize Essays.

Our prize of \$5.00 for the best original essay, on *How can Public Expenditures for Agricultural Purposes be Turned to the Best Interest of the Farmers?* has been awarded to Mr. J. S. Pearce, London, Ont. The essay appears in this issue.

A prize of \$5 will be given for the best original essay on *The Advantages of Planting Nut bearing Trees.* Essays to be handed in not later than December 15th.

A prize of \$5 will be given for the best original essay on *The Agricultural and Social Elevation of the Farmers.* Essays to be handed in not later than Jan. 15th, 1886.

We find that our illustrations have been copied without due credit in Canada, England and the United States, and that our writings have also been used without due credit, notwithstanding our copyright. Even the form of our paper, the color of cover, and in two instances the very name of our paper, have been adopted. This last infringement was the only one we stopped, or attempted to stop. Even the seeds we have introduced have been infringed on in one way by persons sending out wrong varieties under the improper names, sometimes by altering the names entirely. We wish to do good; we wish you to have the best. We spare no pains to secure the best, and to attempt to prevent these injurious practices as much as possible, we prefer withholding the names of some of our choicest prizes for a time. We must, in self-defence, use the common weapon, closer secrecy in our business with our subscribers.

This year the Agricultural Emporium may be placed on a properly organized footing. This year we hope the reports of the Farmers' Council may be read with pleasure and profit by you. This year we trust greater improvements will be made in your ADVOCATE than ever before. Have not the seed and plant prizes heretofore been the most advantageous and cheapest the country ever had? Has not your ADVOCATE been improved every year?

### Editorial.

#### The Farmer's Advocate for 1886.

"THE GOOD SHIP TIGHT AND FREE."

Your ADVOCATE will next year attain its majority, the age of 21. We trust it will not then be at its maturity, but, as during the past 20 years, be yearly improved or enlarged in size, circulation and utility. Do any of you know of any other publication in Canada that has been improved every year for 20 years in some way or another? Have you any other publication that has advocated your interests so faithfully and independently? Is there any other publication that furnishes you with such a variety of the most useful and valuable information for yourself and your family? Is there any dollar expended from your farm that is doing you and your family more good? Is there any way in which you can expend \$1 in obtaining reliable, unabridged, valuable and timely information in regard to your calling, that is more important to you? Who is to own your farm—the sheriff or your children? Every publication has some main object in view. If your ADVOCATE has been true to its name during the past twenty years, why doubt its future course? These are questions that you should consider.

Perfection has not yet been accomplished in your farming operations, neither has it been attained in any editorial chair. If we aim to conquer we can accomplish something. You must either be advancing or retrograding; perfect rest is not attainable here. We hope to do much more good in the future than in the past. We now place the annual envelopes in this journal and have every confidence that they will return in such a manner as to enable us in the incoming year, as in the past years, again to improve your journal.

#### On the Wing.

JAPAN IVY.

When in Ohio years ago in quest of the Democrat wheat, we passed through the main street of Cleveland. Here the residences of the wealthy were located; all the devices for the decoration of their mansions and lawns were here displayed; but among all the splendor of these floral devices, statuary and trees, nothing arrested our attention so much as the sight of a cross on one of these lawns. It was high, and completely covered with the Virginia creeper. From the arms of the cross the long pendants of this creeper were waving gracefully in the air. When in Mr. Landreth's 30 acre park at Bristol, Pa., the oldest and finest on this continent, being shown magnificent trees planted over 100 years ago, no plant or tree secured so much admiration from us as the Japan ivy, covering the gable end of a three-story Elizabethan mansion. The foliage appeared to us to surpass that of the English ivy, as seen covering the ancient castles of our native land. When in Rochester this fall, in the centre of the street in front of Mr. Vicks' seed establishment, was erected what we thought the largest and most perfect model of a cross we had seen. It was erected on a pedestal, was about thirty feet high, and covered with evergreens. It appeared to us much more effective than the usual arches erected for decoration. We instructed our engraver to make a cut of the cross as if covered

with Japan ivy (see first page). By the side you see the young tendrils and the full grown leaves. It takes three years growth to produce a perfect leaf. This plant was introduced a few years ago by Mr. Landreth, and is found perfectly hardy by him. Messrs. Ellwanger Barry's office, in Rochester, is already nearly covered by it. Mr. Ellwanger considers it perfectly hardy after the first year. Some of the best houses in Rochester now have it crawling up their sides. In Boston a large proportion of the best houses are now getting their sides covered with it. When in Boston we went to Mount Auburn Cemetery. The beautiful appearance of this, we might almost term the paradise of terrestrial resting places, cannot be described in the limited space we can now spare to it, but here, while leisurely walking among the profusion of grass, flowers, shrubs and tombs, a grey squirrel ran along the low stone enclosure of a monument, and ran up a tree. This drew our attention more particularly to this spot. We read the name Longfellow. We were really standing by the side of the tomb of this man, who we consider the best American poet, because he wrote that, to us, the most beautiful poem, "The Psalm of Life." Every child in our land should know it. In case you have forgotten, we will reproduce it here:—

#### A PSALM OF LIFE.

WHAT THE HEART OF THE YOUNG MAN SAID  
TO THE PSALMIST.

Tell me not, in mournful numbers,  
"Life is but an empty dream!"  
For the soul is dead that slumbers,  
And things are not what they seem.

Life is real! Life is earnest!  
And the grave is not its goal;  
"Dust thou art, to dust returnest,"  
Was not spoken of the soul.

Not enjoyment, and not sorrow,  
Is our destined end or way;  
But to act, that each to-morrow  
Find us farther than to-day.

Art is long, and Time is fleeting,  
And our hearts, though stout and brave,  
Still, like muffled drums, are beating  
Funeral marches to the grave.

In the world's broad field of battle,  
In the bivouac of Life,  
Be not like dumb, driven cattle!  
Be a hero in the strife!

Trust no Future, how'er pleasant!  
Let the dead Past bury its dead!  
Act,—act in the living Present!  
Heart within, and God o'erhead.

Lives of great men all remind us  
We can make our lives sublime,  
And, departing, leave behind us  
Footprints on the sands of time:

Footprints, that perhaps another,  
Sailing o'er life's solemn main,  
A forlorn and shipwrecked brother,  
Seeing, shall take heart again.

Let us, then, be up and doing,  
With a heart for any fate;  
Still achieving, still pursuing,  
Learn to labour and to wait.

By the sides of the curb stones several plants of the Japan ivy had been recently planted; our hands were almost inclined to commit a sacrilege by taking a slip, but we went to the gardener and purchased a plant to bring to Canada. The gardener informed us it was perfectly hardy after the first year. We can not claim to be the first to introduce it into Canada, as two plants are thriving in this city. This ivy sheds its leaves in the fall. We do not think this will answer only in favorable parts of the Dominion, and will thrive best in the southern part of Ontario. There are those that desire the best of anything, and to be the first to introduce any new improvement. We want every one of you to have a creeper of some

kind, either for utility or beauty. The dairy, the house or garden should have one for their shade or beauty. This is the best self-climber, and the most beautiful ivy. Be among the first in your locality to introduce some improvement. You can obtain it without cost by referring to our prize list. In other parts, except in the southern part of Ontario, we would advise you to keep to the Virginia creeper; that we know will thrive well in Manitoba.

James Vick & Sons, who have long been known as the leading florists, are now propagating this plant in an extensive manner; they have it planted in front of their seed establishment, which is two miles from the centre of the city of Rochester, N. Y. The cross was erected by them in the centre of the road in honor of the assemblage of the Sir Knight Templars, who were at that time assembled in the city from different parts of the States and Canada, and marched to this cross with numerous bands. All in the procession were decorated with a profusion of badges and medals, and the cross decorated the hilts of their golden swords and all parts of their handsome attire.

For this new and beautiful ivy, see our prize list in this issue, or apply to Mr. J. Vick, Rochester, N. Y.

The cross has many significant and important meanings. It is now the ruling power of the world; the greatest joys and most enduring pleasures are obtained by its influence to all that apply it aright. Hoping that its blessings be increased and injuries lessened, we wish you the compliments of the season.

#### NUT-BEARING TREES.

Perhaps as a food-producing tree, no nut-bearing tree that we can grow in Canada is equal to the chestnut. Nor is there any we are aware of that will thrive as far north as this tree; the limit at which some trees and plants will grow is yet to be more clearly defined by experience. The chestnut thrives well in this western part of Ontario. It thrives best on light sandy, gravelly and porous soils; we never see it on low wet land. There are hillsides on many farms that we have seen where nothing could be more profitably grown than the chestnut. It is our opinion that no tree possessing so much value receives so little attention.

There are several varieties of chestnuts, the most promising of which is the Japan chestnut. It has been tested in several places, and found the most valuable. It comes into bearing three years after planting, and produces a large-sized, marketable nut. They are as yet known or propagated by very few nurserymen even in the States, and we do not know of any nurseryman in Canada yet growing it. By what we have been able to ascertain from the most reliable sources, we believe we are now introducing a product that will be found valuable, as we hear of the chestnut thriving as far north as Minnesota, but only in light, porous soils. Do not attempt to raise them on wet or stiff clay soils, or you may be disappointed. Even the little common variety that is to be found plentifully in many places, might with advantage be dug up and planted in more suitable places and grafted.

Many years ago, when we were at Mr. Swan's farm, in Geneva (that is where we purchased the Clawson wheat which is now so generally known in Canada), we saw a young English wal-

nut tree which then had borne half a bushel of walnuts in one year. On our old homestead, 14 miles from this city, lots of black walnuts are grown every year. This makes our most valuable furniture timber. Walnut trees grow to a larger size than any hard-wooded tree we have ever seen in England or the States (we have never seen the Californian Giants). The hickory is the nicest nut, and hickory timber is the most valuable to our implement manufacturers, and yields the quickest and perhaps the most profitable returns. The butternut produces the most oily nut; the chestnut is capable of being made a greater food-producer than any of the above named trees. To old men we say, plant and endow one nut-bearing tree this year; by this means you may erect a memorial that will stand and last longer than any other. You may erect one that will be a living testimony of your utility here—one that may delight your children in generations to come.

Why cannot we in the Dominion of Canada improve our properties, our financial position and our pleasures by devoting a little more attention to nut-bearing trees? There are persons who may talk of having millions in a railway, or hundreds of thousands in mortgages on farms, or in farm property, tens of thousands in one or more animals, but where can we point to the man that can show us a thousand dollar plantation of nut-bearing trees? And what would be a safer, more pleasurable, more profitable, or even a more permanent or patriotic a sight?

The incoming year we intend to devote a considerable amount of our attention to nut-bearing and other trees, and hope to enlist the attention of every one of our readers in this cause, and also to induce every reader to plant in some place one or more trees in 1886. We introduce these in such a manner that they cost you nothing. Try and see who will be the first to secure a tree, and see whose tree will grow the best. See prize list.

#### AN INDIAN AGRICULTURAL EXHIBITION.

Perhaps the most remarkable exhibition we visited this year was held in Oneida, in the township of Delaware, Middlesex Co. This was an agricultural exhibition gotten up by the Oneida Indians, who own between three and four thousand acres of land. They purchased four acres of land and fenced it in with a board fence. Each Indian belonging to the agricultural society brought his number of posts; other willing hands soon put them in the ground, while others nailed up the boards. This was done at an Indian bee. They have their president, secretary and directors. The charge for admission to the ground is 15 cents. They have their cattle, horse, sheep, pig and poultry pens, and the several classes were well represented. Of course the animals were not sheeted, blanketed or dyed, as some at the large exhibitions, but were exhibited direct from the pastures or from the plow, and a highly creditable display they made. The honor and honesty with which the officers were elected, and the decisions of the judges given would put to shame some of the decisions of experts, with rule and tape and wire-pulling, that we have seen. The school house close to the ground was used for the grain, fruit, ladies' work, etc., etc., and here we were astonished and pleased. Here was shown woolen yarn

spun by the Indian women or squaws, knitted woolen mits, fine needlework, crazy patchwork and other quilts, straw hats, bread, cakes, preserves, and lots of household appliances gotten up in a highly creditable manner. The displays of apples and grapes, corn, wheat, oats, peas, beans and barley were all good, and there was quite a strong competition for the prizes. Vegetables, mats, baskets, axe handles, wooden pails, etc., etc., were in competition for the honors. Specimens of writing and drawing were shown. One ingenious Indian had made and exhibited a good patent gate that he had constructed from seeing the illustration of it. Another exhibited some well-made horse shoes he had made; he learned the business by seeing the work done in a blacksmith's shop; he served no apprenticeship. He has erected a good shop and does the horse-shoeing and repairing for the other Indians, and is doing well with it. One Indian had made a pottery model of poor old Jumbo, with a suitable notice of his demise. This scene was enlivened by an Indian brass band. These Indians migrated from New York State, purchased the block of land and receive no pay from the Government. It has taken a long time to bring them to this advanced state of civilization.

We lived and farmed for twenty years adjoining an Indian Reserve, and we continually employed Indian labor; we never looked our house, our barn, hen house or smoke house; chains and axes were always lying about; our cattle, pigs, sheep and horses would be often on the Indians' land for weeks without being looked after; we had a large apple orchard on the farm, and Indians were continually about the place, and we do not think any Indian ever stole from us or from our farm any one thing, not even an apple. Do not these Indians set an example to many of us, when they can unaided successfully carry on an agricultural exhibition in a corner of a small township? Would it be judicious for our government to enact laws to militate against township exhibitions? There are some who are agitating for such a measure. Farmers desirous of maintaining the township exhibitions should attend at the annual meetings to be held next month.

#### The Canadian Fat Stock Exhibition

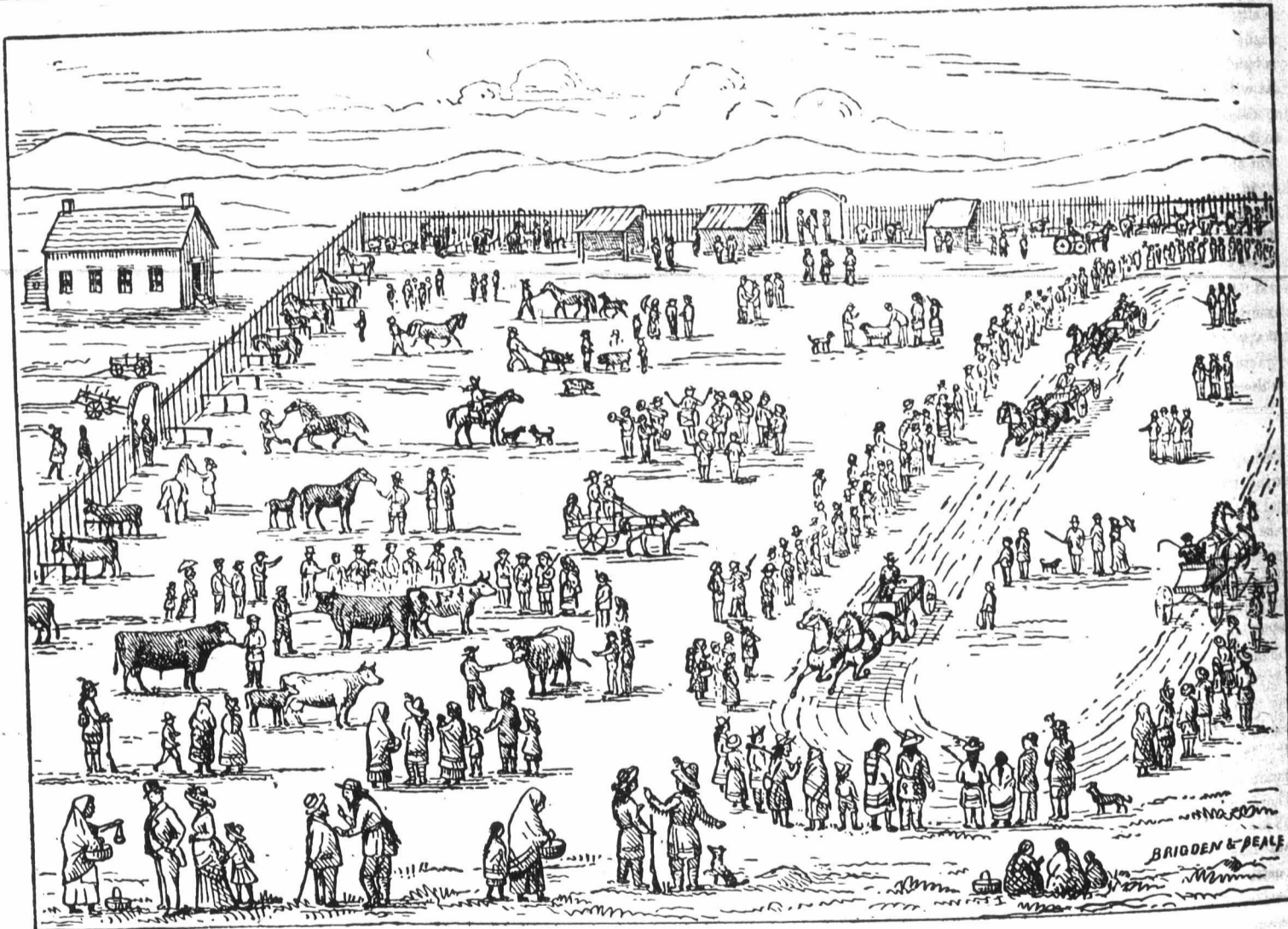
This year the exhibition is to be held in Woodstock, on the 10th of December, and bids fair to be one of the best ever held in Canada. Many parties at a distance often look for additional attraction of some kind beyond the sight of the magnificent animals that will be there. Oxford takes the lead in Canada as the great dairy county; its fine pasture lands, its cheese factories, stock and appliances are of the best kind, and its inhabitants well informed on dairy questions. Any one desiring information about the great cheese industry of our country will not be disappointed in taking a run through this county. The town of Woodstock is gradually rising to importance. It has a good college where both the sons and daughters of farmers receive a good sound education. Two large organ factories, employing a large number of hands, are here. Mr. Whitlaw's foundry is gaining a good name for his steam engines. A bonus of \$25,000, we hear, has been paid to the Patterson Manufacturing Co., of York county, to come to this

town. But perhaps one of the most important and interesting parts is the large establishment of James Hay & Co. Here is a saw mill, furniture factory, glue factory, ratan works, and the celebrated Bain Wagon works, all combined, giving employment to three hundred men. These works are very interesting, and will amply repay a visit, as the beautiful working of the machinery is such as you never before saw. Such sights give us much greater pleasure than a circus or a theatre. The ladies would be pleased to see the ratan and other works, and the men would be interested in seeing the numerous appliances in use in constructing the celebrated Bain wagons, which are so favorably known in all parts of this Dominion. The Bain Bros. were sons of a

#### Canadian Herd Books.

Many of our Canadian herd books were commenced by private enterprise. By extremely harsh and improper means some of them were taken under the control and are still held by the Agriculture and Arts Association. A deceased Member of Parliament having considerable oratorical and other influence, aided by a Secretary since dismissed, tampered with the old herd book in such a manner as to destroy its standing and bring down the odium of American stockmen on it, and almost destroy the lucrative trade that had formerly been carried on between Canada and the United States. Canadian breeders formed themselves into an association, establishing the British American Shorthorn Association; also a new herd book,

unless the Association acquiesced. One member accused the President of deviating from his former opinions in regard to herd books. Many members were strongly opposed to relinquishing their right to their herd book, as they considered it would be injurious to their interest, and that their herd book was ten times freer from errors than the new book issued by the Agricultural Association. Many were highly indignant, and offered to pay large sums individually rather than abandon their herd book. The principal proposition was to admit six of the members of the Agriculture and Arts Association on the Board to decide the fate of their own book. Mr. Snell said they would come if the Association paid them. Strange remark! A meeting called for the



INDIAN AGRICULTURAL EXHIBITION. See page 355.

Canadian farmer, took up the idea of making wagons, went to the States and learned all they could about all the latest modes, and now their aim has been to turn out such work as cannot be surpassed for utility and durability. Our farmers are foremost in many other positions as well as wagon making. When you are driving along the roads in almost any part of this Dominion you now see Bain's name on many of the best wagons; you must then consider that wagon was made by a farmer's son. We will speak more about the Fat Stock Exhibition in our next issue. When you are at Woodstock see both the show and this factory.

Mention is made of three cows poisoned by rotting potatoes. One died; the others were "saved with difficulty."

which has eclipsed the old one for correctness and popularity.

A meeting was held in Toronto on Saturday afternoon, 14th November, the object being to try to amalgamate the two. Mr. Arthur Johnstone stated that the object of the meeting was to take the control of the new herd book out of the hands of their Association, and place it under the control of the Agricultural Association. The meeting had apparently been called at the instigation of the Board of Agriculture and Arts, or their employees. The President of the B. A. S. A., who occupied the chair, was ill at ease, as he had called the meeting, and when called upon to explain, admitted that he was not at liberty to do so, but insinuated a threat of strong opposition being contemplated

benefit of the Agriculture and Arts Association, and they to ask pay, when in reality the expenses of the farmers who had left their homes to attend this meeting should be paid by the parties who brought them there.

We trust that the Commissioner of Agriculture may not countenance anything that may offend the struggling, industrious breeders of our stock, and will encourage rather than discourage private enterprise. There is no necessity for our Governments expending money in keeping pedigrees of stock that belongs to the farmers; the farmers are able to look after that. The loss caused by the Agriculture and Arts Association in taking money from the farmers for pedigrees that are not worth the paper they are written on, has been enormous, and should not be repeated.

The Farm.

Value of "Goose" Wheat.

This wheat is now pretty well known in many parts of Canada, and bears the reputation of being very prolific. It bears the various names of "Rice," "Goose," "Ironutka," "Arnautka," and "California Hard." The only drawback to the farmers has been the price, it bringing several cents less than other varieties. In our last issue it will be seen that the Toronto prices at farmers' wagons were 75 cents for "Goose" and 88 cents for fall and spring wheats.

We are constantly waging war against ignorant prejudices, but it is seldom that we run counter to one so glaring as this. Some millers have been so prejudiced against "Goose" wheat as to contend that it does not contain any element of human food. It is condemned on account of its hard, glutinous nature, which in reality is a condemnation on account of its highly nutritive properties. There are still people, millers included, so far behind the times that they regard starchiness as the prime quality of flour. We only know one argument in favor of starchy flour, containing a low percentage of gluten, and that is, it makes white bread and white is the fashionable color. In such a state of ignorance what is the sense of talking about economy, health, and nutritive properties?

A move in the right direction has been made by Mr. R. C. Burdick, of St. Paul, chief inspector of grain, who sent five samples of wheat to Prof. Dodge for analysis, and the following table shows the results:

	Rice Wheat.	Ironutka Wheat.	Saskatchewan Fife.	Chicago No. 1	Scotch Fife.
	Pr ct.	Pr ct.	Pr ct.	Pr ct.	Pr ct.
Moisture exp'd from powder at 212°.....	8.52	8.48	11.46	11.47	9.95
Ash or mineral matter.....	1.64	1.47	1.73	1.95	1.82
Phosphorus in the ash.....	.36	.33	.41	.44	.40
Albuminoid or nitrogenous matter, chiefly gluten.....	14.31	13.56	13.06	12.56	12.94
Nitrogen in the albuminoid.....	2.29	2.17	2.09	2.01	2.07
Oil or fat.....	2.04	1.89	2.08	2.21	2.14
Cellulose or fiber.....	1.78	1.33	2.04	2.39	2.11
Starch, gum and sugar.....	71.72	73.37	69.64	69.42	71.04
Number of kernels in cubic inch.....	330	215	360	545	458
Weight of cubic inch.....	*180	*196	*193	*195	*186

This table shows that "Goose" wheat contains less moisture and more of all the nutritive constituents than the other varieties analyzed—ash or mineral matter excepted. The mineral matter of our foods deserves more attention than is usually devoted to it, but the difference in these analyses is very insignificant.

A further chemical test was made by Prof. Kedzie, of the Michigan Agricultural College, with the following results:

Sample No. 1 (Scotch Fife) contains 2.24 percent of combined nitrogen, which is equivalent to 14 percent of albuminoid.

Sample No. 2 (Rice or Goose) contains 2.31 percent of combined nitrogen, which is equivalent to 14.42 percent of albuminoid.

In our last issue we published the analyses of a large number of samples of wheat showing a variation in the albuminoids of 9.1 to 14.4 percent.—average 11.7, against 14.1 percent, as an average of the "Goose" wheat in the above

tables. By changing the respective constituents into money values, taking the American standard as a basis, and supposing the value of the other varieties of wheat to be 88 cents per bushel, the present market price, then "Goose" wheat ought to be valued at \$1.06 per bushel, and should sell for this price.

Farm Drainage.

No. IV.

In our previous articles we presented many cogent reasons as to why we should drain; we have yet to consider the when, the what and the how. The when can be peremptorily dismissed; always commence now. What lands require draining takes precedence of how to drain. The importance of getting these things in their natural order is so imperative that we cannot forbear devoting a paragraph to their consideration—which principles are of the utmost concern in all farm operations.

The farmer who can merely handle the spade and pick boasts of being practical. If his mind cannot grasp, or his eyes detect, why draining should be done, or what lands require draining, he becomes a slave to practice, and complains that he is always meeting with bad luck. Again, he may know what soils to drain, but unless he understands why and how they should be drained, bearing in mind the effects of all his doings, the results may be equally disastrous, and he will not be able to calculate whether or not the gain will warrant the outlay. Hence the science should always go before the practice, or rather the art; to which the why will suggest the what, and the how, so that by first understanding the principles, there will be nothing to unlearn. The practice is, then, properly called the art, to which the farmer should aspire in all his operations, the art being always right, whereas the practice may be always wrong. "There is nothing so practical as science" is therefore a proverb which is literally true, considering the ends attained; and the ignorant saying that "An ounce of practice is worth a pound of science" is unwarrantable.

How are we to know what lands require draining? By careful perusal of the principles which we have already laid down, answers to this question will be very suggestive; but we desire to present them in a more concise and comprehensible form. Every farmer must observe and reflect—depending more upon himself than upon the experience of others, for there are always differences of conditions to be weighed. Some soils may be dismissed from our consideration—on obvious principles already given,—such as sands, gravels, light loams and moulds, providing always that the bottom soil is as pervious as the top, and that they do not contain a surplus of ooze water from underlying springs, or the washings from the higher lands of adjacent fields. In addition to the character of these soils, the quantity of rainfall and the lay of the land must be considered; a rolling field may stand in a different relation with regard to drainage when compared with a flat field, even though both soils possess the same physical character.

We shall therefore limit the subject to clays and loams, except under circumstances in which a variety of subsoils is found. Most mistakes in drainage are made on account of

the observations being too limited; an examination of the fields during one or two seasons only is as unsatisfactory as the testing of a new variety of seed, or the conducting of any other experiment, for the same length of time. The longer the time occupied by the observations or the experiments, the more reliable will be the results.

With regard to the surface soil, an examination made almost any time will reveal the drainage requirements; but as the ever-varying subsoil is hidden from the eye, it must be grasped by the mind. Whatever the character of the subsoil may be, it reflects itself in the surface soil so far as drainage requirements are concerned. Where the sub-stratum is porous, the surface reveals all the features of a drained soil; where the conditions are different, there are at times evidence of supersaturation. These observations must be made during the wet seasons, when many fields will show symptoms of wetness and dryness in alternate patches. This condition is specially noticeable while the land is being reworked in spring. So difficult is it to procure a field of uniform subsoil, that many investigators have come to the conclusion that the hundredth part of an acre will make a more satisfactory experimental plot than the tenth part. These are conditions which should be specially weighed; for it is of great importance financially to know which fields or parts thereof should be drained first, there being no difficulty in coming to a decision when uniformity of dampness or dryness is the rule. It is also important to observe how long the damp condition of the soil lasts; this can be determined by observing the growth of the crop as well as by observing the color of the soil. Where excessive moisture exists, germination will be retarded, if not prevented, and the growth will be feeble, spindly, curling, and of a yellowish tinge. Any sudden or extreme effects will be distinctly marked on the growth, the roots not having sufficient depth to give vitality to the plant. When the growth of the crop is farther advanced, the most accurate observations may be taken in dry weather, when large cracks will be found in the soil. The existence of aquatic plants is a valuable guide, and drainage is the cheapest and most effectual means of exterminating them.

There is another method of making drainage observations, which may be used as a check on the methods we have just described, and is also serviceable when the period for making observations is limited to a season or two. We refer to the digging of test holes or pits. First let us suppose that a drain, open or tiled, is dug in some portion of the field; then dig holes three or four feet deep along the sides of the drain, but at different distances from it, and, after each shower of rain, make a note of the time required for the water in each hole to empty itself into the drain. If the soil requires draining, the water will find its way into the drain more rapidly than into the subsoil—at a reasonable distance from the drain. If the bottom of the hole is lower than the bottom of the drain, then note how long the water takes to reach the drain level or a little above it; also, how long the rest of the water remains in the hole, which will indicate the perviousness of the subsoil. This method of testing will also give the distances which the drains should be dug apart. When there is no drain or other cavity in the

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At this stage there are a few cautionary observations to be made. No strict rule can be given for the rapidity with which the water should be removed, for some crops are deeper rooted than others and suffer less from the effects of stagnant water; but it must be borne in mind that water will not flow so rapidly from the soil into test holes, or from test holes into drains, as it will into the drains of a thoroughly drained field after sufficient time elapses for them to get into good running order. Another caution: never judge the porosity of a clay soil when it is "puddled"; for it is impervious so long as it remains in this condition.

(To be continued.)

#### Our Essayists on Agricultural Expenditures.

The question of Agricultural Expenditures being of unusual importance, we deem it our duty to review some of the opinions expressed by our prize essayists. We do not bind ourselves to the views of our essayists any more than to those of our correspondents, nor do we expect them to agree with us. However, when we present a case, we do it logically, and the contradiction of our conclusions by bare statements of opinion may often be very misleading in the minds of those of our readers who but cursorily glance at one side. We earnestly desire to see our conclusions contradicted, provided they are done so by giving sound reasons.

The general tenor of the writings may be summed up in this manner: Enough public money has been spent in encouraging the potato, therefore the cabbage should now get a chance. The menagerie now being able to take care of itself, therefore let us encourage the hippodrome. This method of reasoning implies that the principle is right, the unrighteousness being a mere matter of detail. It does not seem to be conceived that when a host of tramps is once created, who make a living by scouring the country in quest of prize apples, they would pursue the same profession with reference to cabbage heads. Let the principle be laid down that all objectionable and profitless occupations be abolished, and then we shall find that a radical change will be necessary.

These are the grounds on which our prize essayist may claim the victory. All parties agree that money spent in the education of our youths is spent to the very best advantage. The Government has the machinery already on hand, and by a minimum of extra expenditure a maximum of good can be attained. This should be the standpoint of every farmer who claims to be a true friend of agricultural progress—the agricultural education of our children. Assuredly we are starting at the wrong end. Who would ever think of teaching the principles of law, medicine or divinity to the members of these professions after they had received their charter entitling them to practice? Yet we disagree with our essayist when he insinuates that the Dominion Government should interfere with the educational affairs of the Provinces. We also object that the farmers should squander their time in organizing to defend their "rights": let no public money be squandered in encouraging any one class of the community at the expense of another; the far-

mers will then have no "rights" to defend, and their spare time can then be devoted exclusively to organizing for their social and professional advancement.

We wish we had space to publish all the essays in order that our readers might see what a great diversity of opinion exists, and how farmers are led astray by politicians in the principles of political economy. Here are some of the opinions expressed: Farmers should wage war against such high rates of interest, and consequent low profits. Experiment stations should be established in every county under the direction of practical farmers. Money should be spent in encouraging tree-planting and keeping clean farms. Our exhibitions should receive greater encouragement and the prize lists should be increased, but not confined so much to the same objects. Prizes should be given to market gardens as well as to farms. Fruit growers should receive greater encouragement, as they have more money and skill invested in fewer acres, and are therefore more beneficial to the country. Hedges deserve prizes as well as barb wire. A more extensive use of commercial fertilizers should be encouraged. Money should be spent in disseminating first-class stock amongst farmers who are unable to pay for them, so that the poor farmer may have as good a chance as the rich. Seed wheat should be imported from the newer to the older Provinces. Let a committee be appointed to control agricultural grants. Free pamphlets should be distributed on tile drainage, how to save the manure, the use of fertilizers, etc. Professors should be paid for delivering free lectures in all the public school houses. The Government should give farmers money for underdraining, to be repaid to township agricultural societies, and then spent for the encouragement of township exhibitions and other agricultural purposes in the townships. Chemists should be appointed for analyzing the soils of all the farms.

Every one of these sentences could be made a text for a lengthy treatise, but we have only space for a few general remarks. Farmers can no more control interest and profits than they can control the ocean. Experimenting is now one of the most scientific of all the sciences, and the controlling of stations by mere practical farmers would be as absurd as the controlling of farms by tinkers. If we were left to our choice, we would complete the study of two or three professions, or twice as many languages, in preference to mastering the science of experimenting. Money spent in prize farms, gardens or orchards would be taxing the poor for the benefit of the rich, for which the former derives no benefit; and surely it would be better to educate the unskilled than to tax them for the purpose of putting a premium on "skill." The boy who spends a few months at school in the study of chemistry will learn more about how to use commercial fertilizers than the ordinary practical farmer will learn in twenty years by any system of encouragement which the government can devise. A chemical analysis of the soil would be absolutely useless, not by any fault of chemistry, but on account of the extreme variations in the character and composition of the soil and subsoil, even in the same field. Why should good stock be disseminated in preference to any other good thing, and where will these good things end?

Why should government literature be better or cheaper than any other class of literature? Why should farmers who live in townships that require draining be led to the public crib at the expense of other farmers? Is this essayist not aware that acts have already been passed for the encouragement of drainage? The whole fabric is based on a false foundation. People assume that there is money saved by taxing all classes of the community collectively for the mutual benefit of each class individually,—or, figuratively speaking, in order to give everybody a chance to win the race, each competitor gets a start of the same number of yards. But this is based on the supposition that you are taxed the same amount for the benefit of your neighbor as he is taxed for your benefit, which is not true in politics; for those who clamor for the most encouragement, and can wield the most political influence, are sure to shift the burdens on their weaker competitors in the struggle,—that is, those who are least organized—in other words, the farmers.

People assume, moreover, that private enterprise must be stimulated, whereas it would be just as true to say that it should be checked. The function of government is the prevention and punishment of fraud amongst the over-sanguine and unscrupulous leaders of individual enterprises, not to compete with them. The expenditures of public money ostensibly for agricultural purposes is in reality a bid for your "vote and influence"—a strategic device for creating offices for hungrily and thirsting politicians who are incapable of making a living by honest and independent exertions.

#### The Agricultural Farce at Washington.

Mr. S. E. Todd, of New Jersey, in a lengthy communication to "The Husbandman," argues strongly in favor of abolishing the Agricultural Department of the U. S. Government, holding that it is a monstrous farce, a burden of expense, and many years behind private enterprises. He says:

"In 1862 and following that date, I was accustomed to receive, as corresponding secretary of the Cayuga County Agricultural Society, New York, large packages of seeds to be distributed gratuitously amongst farmers. In order to induce farmers to call at the county seat and get a supply of seeds, I kept notices in the papers requesting them to call. But poor and shiftless tillers of the soil raised better seeds than the government. Hence, as I could not give the seeds away, I fed the cereals to my fowls, and others were cast on the compost heap. Almost every year since, large packages of seeds were sent, unsolicited, to me for distribution.

"Now, then, let us contemplate for a moment what was the commendable object or purpose in view by the men who first conceived and inaugurated the Department of Agriculture. Was it to employ men at an enormous salary to go about the country and buy up cargoes of chicken feed in the form of inferior cereals, and then hire five hundred girls to put that inferior grain in little sacks and paper, for Congressmen to send to their constituents through the post office? That is just what the Department has done. When I was editorially connected with the press of New York city I received so much more "stuff" than I could give away, that I actually sold at one time more than eleven dollars worth, as it was rubbish which I did not want, although I had repeatedly requested the Department to send me no more, as I didn't want anything of the sort.

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ture to cultivate the choicest and most profit-  
able varieties of farm and garden products, on  
the experimental farm at Washington, so that  
farmers from any part of the world, when on a  
visit to the national capital, could see some-  
thing that tillers of the soil would desire to  
cultivate on their own land. But here they  
were disappointed on finding that farmers had  
preceded their efforts more than a score of  
years ago. Then the authorities began to look  
around for the purpose of leading off in the  
breeding and management of live stock, where-  
upon, to their amazement, it was discovered  
that private enterprise in many States had per-  
formed wonders by way of improving the dif-  
ferent breeds of horses, neat cattle, sheep,  
swine and domestic fowls; and in numerous  
instances had accomplished results that could  
never be realized by a National Department.

"Let us contemplate, for a few moments, the  
efforts made by the Agricultural Department,  
to disseminate agricultural literature through-  
out the country, by way of issuing annual re-  
ports of the operations of the Department.  
Thousands upon tens of thousands of dollars  
have been expended, in puerile efforts to pro-  
mulate agricultural, horticultural and pomol-  
ogical information, which had been done, in  
years past, and which has been in progress  
every year, and always done better by private  
enterprise, than by the Agricultural Depart-  
ment. If we compare the efforts of the Agri-  
cultural Department with private enterprise, in  
agriculture, in horticulture, in arboriculture, in  
pomology, in entomology and in the publica-  
tion of agricultural literature, it will be seen,  
at a glance, that the Department has always  
"played second-fiddle"—it has never taken the  
lead.

"What have the hundreds of thousands of  
volumes of Agricultural Reports of the Depart-  
ment amounted to? They were, and still con-  
tinue to be, a ludicrous farce. As soon as it  
was perceived that such Reports were vastly  
inferior to agricultural papers, no sensible  
farmer cared enough for such volumes to call  
and get a copy of those men who held them for  
gratuitous distribution. Those citizens who  
were so unfortunate as to have any of these Re-  
ports in their possession, usually sold them for  
the price of old books, per pound, to the first  
rag picker that would buy such trumpery.  
Every sensible citizen sneers at the Agricultural  
Reports; and the volumes are not considered  
as worthy of a place in the library of any  
family, except as a literary curiosity."

The above is a mere specimen of the vol-  
uminous matter which has appeared in the  
American press with reference to this Depart-  
ment; but it has gained such political strength  
that it is doubtful if it can be abolished by or-  
dinary means. All honorable men are waging  
war against it, but the office-holders, whose  
object is to retain place and power, instead of  
being sent "on the tramp," are too many for  
them.

Farmers of Canada! Such are the tales we  
hear of an Agricultural Bureau which our Do-  
minion Government is about to imitate in this  
country. It has been publicly confessed that  
this is the scale on which your proposed Bureau  
is to be based. You have already office-  
holders and monopolists enough to prey upon  
your vitals, and if you are loyal citizens you  
will crush every attempt made to burden you  
with heavier taxes and trample upon your  
liberties.

The only material difference of opinion be-  
tween us and the Government in live stock  
matters is: They think that their tests have  
been sufficient to decide the merits of the  
breeds; we think that no decisive tests have  
yet begun. Their policy is to stop; ours is to  
go on.

#### Laying Underdrains in Winter.

It is not generally thought that this work can  
be done in the winter to advantage, but never-  
theless it can. If proper preparation is made in  
autumn it can be more economically carried on  
in the milder weather of winter than at almost  
any other season. Men can be had for less than  
half the wages of summer season in many  
sections of the country where agriculture is  
almost the sole occupation. Many of the com-  
mon laborers that have worked on the farm  
through the summer would be glad to stay  
through the winter for their board and common  
work clothes. The days are short and but few  
hours, even in pleasant weather, would be  
spent in the field each day, and of course in  
stormy or severely cold weather nothing at all  
would be done in the field, so that the farmer  
hiring by the month could not really be expect-  
ed to pay very large wages.

The preparation spoken of in autumn should  
be something as follows: Before the ground  
freezes the drains should be located and furrows  
thrown out with the plow along the proposed  
lines. These should be run straight and true,  
throwing a furrow both ways, afterward going  
through with the plow set to its lowest depth  
to deepen the trench as much as possible. I  
have carried it down to a depth of 16 inches in  
this way, and it can easily be put down to a  
foot. After this is done, haul coarse, strawy  
manure and fill the trenches so made, so that  
they will not freeze.

When the digging commences this filling may  
be removed as fast as the digging progresses.  
Underneath the manure it will not be frozen at  
all, and but little along the sides. This may  
easily be cut through with an old axe and is  
really a benefit to the digger, as it holds the  
sides from caving in on him while lowering the  
trenches and laying the tile. This manure used  
in the trenches will come into play the next  
spring to mix with the raw earth that comes from  
the trench. In digging all these trenches care  
should be taken to have the top or good earth  
thrown to one side, and the raw subsoil to the  
other. Of course these cannot be completely  
separated with the most careful management,  
but so far as possible it should be done.

I have often noticed that more digging is done  
than is actually necessary. The trenches are  
dug wider than need be, and more pains are  
taken to make the sides straight and smooth  
than the nature of the work requires. If long-  
handled spades and scoops to clean out and  
form the bottom of the trench are used, the  
trench may be made very narrow indeed. It  
will pay to have these tools, as they expedite  
the work wonderfully.

Don't put off draining from one year to another,  
waiting until time can be gained for the work  
during summer season, but carry it on in winter,  
while the crops will not be at all interfered  
with, the weather is cold, and labor is cheap.  
—[W. D. Boynton, in National Stockman.

Practical tests made in England as to the  
effects of stable manure secured under cover  
against that made in the ordinary exposed  
manner resulted in the former producing 11½  
tons of potatoes, against 7½ tons produced by  
the latter—a gain of 50 percent. in favor of  
the covered manure. The following season 54  
bushels of wheat were obtained from the  
former plot, and only 42 bushels from the lat-  
ter—a gain of 30 percent.

#### Remedy for Weevils.

A German contemporary recommends the  
seeds of hemp as a simple but very effective  
means for getting rid of the weevil. In a gran-  
ary at Soissons containing about 200 hectoliters  
of wheat, the weevil was doing considerable  
damage, when by chance some hemp with the  
seeds still in it was put where the wheat was  
stored. The next morning the owner of the  
granary was surprised to find the rafters of the  
roof all covered with weevils, which had appar-  
ently sought refuge there from the smell of  
the hemp. The wheat was now turned about  
with shovels, and for six or seven days  
the weevils continued their emigration until  
none were left. The hemp being renewed every  
year, no weevil has since been discovered in  
that granary.

Another means easily to be applied is said to  
be tar, the smell of which the worms cannot bear,  
either. Boards painted with the stuff, placed  
here and there in a storage room, will speedily  
put to flight the obnoxious insect. The tar  
must likewise be renewed from time to time.  
—[American Miller.

Experiments have shown that, if corn is thor-  
oughly dried in the fall by kiln-drying or hang-  
ing in a dry atmosphere with a temperature of  
90° to 120°, and kept dry, it will endure the  
severest cold without injury to its vitality. So  
important is dryness to safe-keeping of seed  
corn that we must secure that rather than  
warmth. Corn will stand when dry a heat of  
206°, but if not dry its germinative power will  
be injured at 120°. So corn that is not free  
from moisture is liable to injury both by heat  
and cold.

A German milling paper recommends a very  
simple means for getting rid of rats in mills,  
warehouses, etc. By pouring liquid tar into all  
the holes that can be detected, the rats will  
either be suffocated, or, being besmeared with  
tar, they will come forth and perish in a very  
short time. It is best to let them run off when  
coming out, because, in running into another  
hole, they will besmear and thus force away  
their companions, too. In localities which one  
wishes particularly to protect from the vermin,  
old boards besmeared with fresh tar may be  
placed; the rats will never cross them. As  
soon as the tar is drying up and losing its  
odor, it must be renewed. This done for several  
successive days, those of the troublesome vermin  
which have not been killed by the medicine,  
will speedily remove to other quarters.

The "Massachusetts Ploughman" gives the  
following receipt for making "Government  
Whitewash": To make five gallons of brilliant  
stucco whitewash for buildings, inside and out,  
take six quarts of clean lumps of well-burnt  
stone lime; slack with hot water in a covered  
tub to keep in the steam. It should then be  
passed through a fine sieve to obtain the flour  
of lime; add one fourth of a pound of burnt  
alum pulverized, one pound of sugar, three  
pints of rice flour, made into a thin, well boiled  
starch or jelly, and one pound of glue, dissolved  
in hot water. This may be applied cold on in-  
side work, but for outside work it should be  
applied warm. A whitewash thus made is said  
to be more brilliant than plaster of paris, and to  
retain its brilliancy many years. It should be  
put on with a common painter's brush, a second  
coat being applied after the first is well dried.  
The east end of the White House at Washing-  
ton was formerly painted with this composition

## Garden and Orchard.

## Papers for Amateur Fruit Growers.

BY L. WOOLVERTON, GRIMSBY, ONT.

## No. III.

## BLACKBERRIES.

Latest of the season among small fruits is the blackberry, but it is by no means the least in importance, especially where peaches are a short crop.

Of the large number of varieties we shall name only two or three as being especially worthy of a place in farmers' gardens, or in small plantations for market purposes.

The *Wilson's Early* is the best early blackberry, a very fine fruit indeed, excelling every other variety for table use, being free from that hard, acid core so objectionable in the old *Lawton*. The bush is very slender, and can easily be distinguished from other varieties by its manner of growth. Unfortunately it is not hardy enough to be grown north of the latitude of Hamilton, and even then it is liable to be winter-killed unless on a dry soil.

The *Kittatinny* is the most valuable variety known for main crop. The fruit is large and showy, and excellent in quality; the bush is a very thrifty grower; but, like the former, it can only be successfully grown in the peach sections of Ontario.

The *Snyder* is probably the best variety for the northern sections, being very hardy. The plant is a very vigorous grower, and its dark green foliage makes it easily distinguishable from the preceding. The berry, too, is smaller and consequently not so desirable for market, but it is a most abundant bearer, which is some compensation.

The market for the blackberry is good everywhere, because, like the peach, it is so particular about soil and climate that the supply is likely to be always very limited.

## THE CHERRY.

The climate of Canada is not adapted to the greatest success in the growth of the finer kinds of cherries. The *Hearts* and *Biggareau* are not sufficiently hardy to be grown with any confidence north of Lake Ontario, and even in the most favored sections south of the lake, the crop is almost as uncertain as the peach, owing to the tenderness of the fruit buds. Notwithstanding, some enterprising horticulturists as far north as Owen Sound, Peterborough and Kingston say they get an occasional crop of these tender varieties.

The *Dukes* and *Morellos* are much more hardy, and especially the *Kentish* varieties known as the common red cherries. These last may be grown almost anywhere in Canada, even in the Ottawa region with protection, and probably in parts of the Northwest; and this is fortunate, because no cherry is so generally useful, or in better demand than these sometimes despised kinds.

For general cultivation then, except in very favored locations, I would recommend the *Pie* cherries, but for those who are ambitious to have a continuous supply during the whole cherry season, I would advise the planting of the following kinds named in the order of ripening:

The *Early Purple* is a hardy kind, and an abundant bearer, but it ripens so early in June

that it is a great temptation to the birds. It has a rich sweet flavor, and is well adapted to dessert purposes, but it is of little use for cooking. In this latter respect it is surpassed by the

*May Duke*, which is a most valuable early cherry, and also very hardy. It is usually gathered when it first reddens, and before it is fully ripe, for stewing or baking in pies; but if left until quite ripe, it turns dark red, and is a very desirable dessert cherry. For cooking, without any reference to dessert, the most satisfactory of all early kinds is the

*Kentish*, or *Early Richmond*, the earliest of the *Pie* cherries above alluded to as one which may be freely planted in most parts of Canada. North of Barrie, however, this variety is somewhat uncertain, as Mr. Hickling of that place says the bloom is sometimes destroyed by late spring frosts.

The *Governor Wood* is about the finest early dessert cherry, and ripens in the Niagara district soon after the middle of June. It is a fine large heart cherry, very delicious, with a yellowish skin, shaded with bright red, and is an abundant bearer when the buds pass the winter uninjured.

The *Elton* follows the above almost immediately. It is somewhat similar in coloring, but more delicate, and in shape a little longer. It possesses a most luscious flavor, and is generally conceded to be one of the finest cherries known.

Of the black hearts, the *Knight's Early Black* is the first to ripen; a delicious cherry, but not sufficiently productive. The most desirable is the *Black Tartarian*, which ripens about the last week in June. As the tree advances in years it improves in productiveness, but unfortunately the worms and the birds view it with special favor, and will do all the harvesting unless the greatest vigilance is exercised.

Probably the most productive of the heart cherries, and in consequence the most profitable, provided it can be marketed before decay sets in, is the *Napoleon Biggareau*. This variety bears prodigious crops of very large handsome fruit, pale yellow in color, with a dark crimson cheek, but the flesh is too firm to constitute a very desirable cherry.

A far more delicious cherry, but a very scant bearer, is the *Yellow Spanish* or *Biggareau*. The fruit is yellow, even in flesh, and of the very largest size, looking more like apples than cherries.

The *Black Eagle* ripens early in July, and is a most excellent kind for dessert. The tree is a regular and even bearer, but very sparsely fruited, and consequently requires much patience to harvest. It is followed by the *Elk-horn*, which I cannot recommend very highly; for, though it is a fine looking black cherry, the skin is tough and the specimens are very uneven in size and quality.

Our list closes with the *Late Kentish*, which is known as the "Common Red," and is more widely distributed than any other cherry, owing to its remarkable hardiness. No cherry is more useful, whether preserved by drying, canning or stewing. It will succeed in the most neglected corners, and deserves a place for home uses on every farm throughout Canada, excepting only the extreme north.

The *Market* for choice varieties is only lim-

ited by the facilities for their production, as the soil and climate in Canada suited to the growth of the finer kinds are by no means extensive, and even in the most favored localities the crop is uncertain. The *Kentish* varieties are, all things considered, the most reliable to plant for market, because of their regularity in bearing, and because of the enormous demand for them, whether in city, town or country.

## Planting Nuts.

Most nuts will not sprout after they have become thoroughly dry, and should therefore be planted as soon as ripe. If the ground is in proper condition, the best plan is to plant the nuts just where the trees are wanted. A mellow, moderately rich soil, covering the nuts two to three inches deep, and packing the earth firmly over them, is all that is needed.

If it is not practicable to plant in the fall, or where squirrels and field mice abound, which are very apt to steal the nuts, it is better to defer planting till spring. In this case the nuts have to be kept in sand over winter.

To preserve the nuts over winter take a box,—which should not be water tight,—cover the bottom with about three inches of fine sand, spread a layer of nuts over it, cover with sand, and so on, finishing off with a three-inch covering of sand; place out doors and cover with soil. In spring, as early as possible, plant in nursery rows, or in the places where the trees are to remain permanently.—[Am. Garden.]

## Apples as Food for Stock.

Many have been the discussions on the feeding value of apples for stock, and various have been the conclusions arrived at. To say that apples—or indeed any other article of food—are good or bad for stock, is too broad a statement for any practical use, and yet such are the meagre statements which we receive from farmers. Apples, when fed exclusively or in large quantities, would certainly produce very unsatisfactory results,—also when fed with foods which have nearly the same chemical composition. When fed in limited quantities, however, and with foods rich in albuminoids, the results cannot be otherwise than satisfactory.

We are now dependent upon chemical analysis for the most correct solution of feeding values, but in practice these values cannot be obtained unless the feeding standards be followed. In setting the value of any uncommon article of food, the most intelligible way is to compare it with a food whose value is already well known. Apples should then be compared with sugar beets. The composition of both vary very considerably, according to the varieties taken and the composition and character of the soil in which they grow. Apples and beets are mainly valued for the sugar they contain, varying in the former from 7 to 10 percent, and in the latter from 9 to 13 percent, but there are more organic acids in apples, which make both foods about equally rich in carbonaceous substances. The percentages of water in apples vary from 82 to 86 percent, in beets 80 to 84, so that there is also very little difference in the quantity of dry matter, but the albuminoids and ratio are slightly in favor of the beet; apples have more ash. In general it may



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therefore be said that beets have a slightly higher nutritive value than apples.

The next question is, What about the average produce per acre? This is not so easily decided, the variations being so great that it would be difficult to strike an average which would be acceptable to a majority of our farmers and fruit growers. However, we have followed the best evidence which we have been able to procure,—taking farmers' averages, not those of fruit growers.

A bushel of apples weighs about 48 lbs.; 11 bushels per tree are a fair average for a moderately productive variety, and 40 trees can be set out on an acre, making a total product of 10½ tons per acre for each season. A fair average of beets is about 400 bushels, or 12 tons per acre. In this comparison we make due allowance for the full fruiting of apple trees only in alternate seasons; but when it is considered that a full grown tree, in a productive season, will yield 10 to 20 barrels of apples—calculating a barrel to be 2½ bushels—this vastly exceeds any yield that can be obtained from beets, it may be reasonably concluded that apples are at least as productive as beets, and in an orchard of the most productive varieties, it may justly be asserted that apples are the more productive crop. However, let it be concluded that, taking both yield and nutritive value into the calculation, both are equally valuable, we have yet to consider the market variations and the difference in the cost of production.

Beets can only be utilized on the farm, there being few or no local markets, and the farmer cannot manufacture them into any saleable product. They demand much more labor than apple orchards, and the risks are at least as great.

Apples, on the other hand, can be shipped to home and foreign markets. The highest grades can be sold at immensely higher profits than can be obtained from feeding beets, and the inferior grades can be fed as exact substitutes for beets. They may also be converted into cider, and the refuse, pound for pound, have a higher feeding value than beets. They may also be dried, canned, or converted into apple butter or apple vinegar, and there is an ever-increasing demand for the manufactured products of apples, thereby furnishing winter employment for farmers in their own houses. But this objection should here be noted, that apples will not keep as well as beets, and when fed to stock, it must usually be done in the fire jar

of the winter months. However, as they can be fed with profit and safety to all classes of domestic animals, considerable quantities can be disposed of in a short time.

Another important consideration is the utilization of the orchard for other purposes. While waiting for the trees to bear, the ground can be plowed and cropped for several years after setting out the trees, and afterwards, if it is considered objectionable to include it in the ordinary rotation of crops, it will make an excellent pasture for calves, sheep and hogs.

The Apiary.

Marketing Honey and Winter Care.

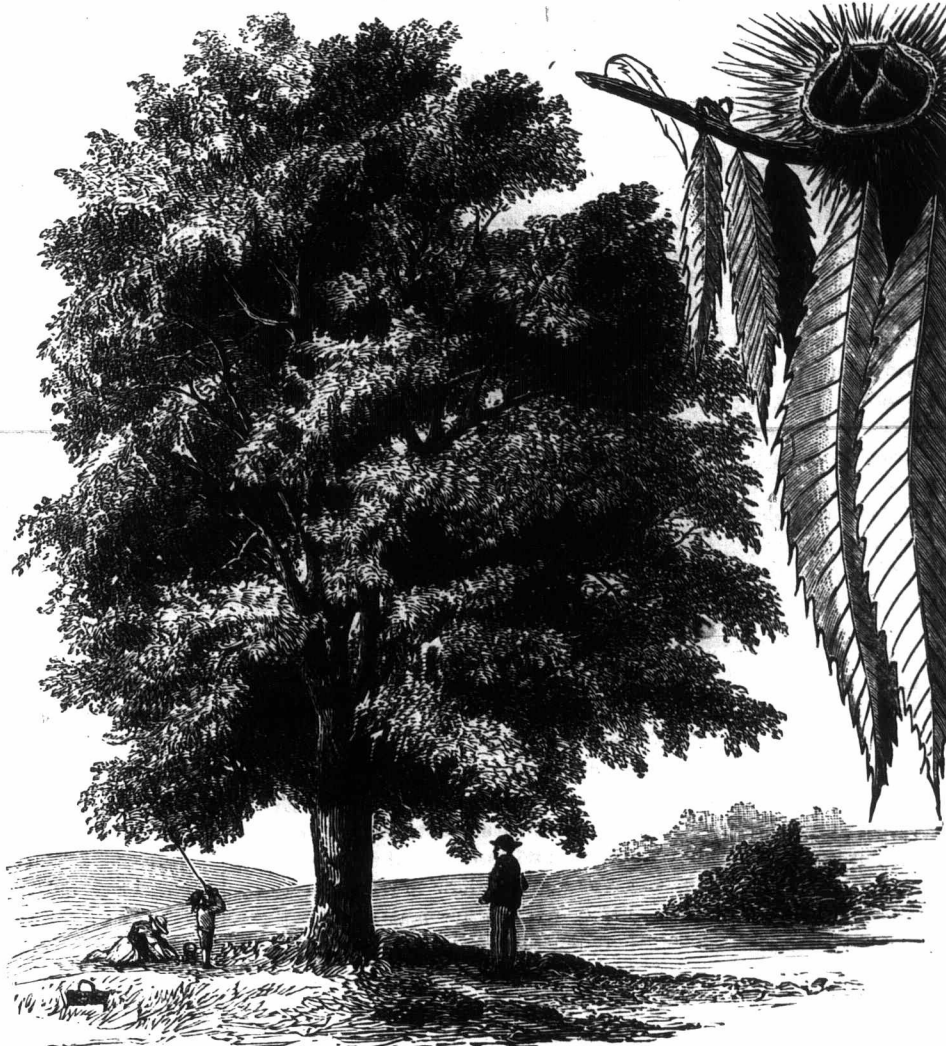
The same general rules which guide us in marketing extracted honey are applicable in

the more of these crates piled up in a window the better, because the honey is made more attractive, as also more conspicuous.

The winter care of honey is important. Extracted honey, if not kept in a constantly warm place, will granulate, that is, will become hard and white, and appear much like lard. Many people think this change in honey a sure sign of adulteration and begin to talk of "sugar." (Such poor creatures do really deserve our pity; but we must overcome a just contempt on our part before we can bestow such a sympathy). The granulation of honey is the best test of its purity; if adulterated with glucose honey will not become solid; or if with granulated sugar it will become cakey and have crystals through it and likely a hard crust on top. To relify honey it is only necessary to warm it slowly and thoroughly. Proceed as follows:—Take a tin or iron vessel of sufficient size and place inside it a wooden block or light iron grating of some kind about half an inch high, and large enough to support the vessel containing the honey. Place this latter vessel upon its support and fill the outer one with luke warm water as high as possible without covering the honey. Remove the lid from the honey and place the whole affair over a slow fire; keep the water just under the boiling point till the honey is all melted. Seal up again while warm.

Section honey should be kept where it is dark, dry and warm. The light will spoil the color of the capping; damp will burst the cells and sour the honey; and cold will granulate the honey. Since last winter was so severe the bees neither required nor could get much care. Should the coming one be mild they must be carefully tended or heavy losses will occur. The greatest trouble in open winters is on account of the tendency bees have to fly when the weather is unsuitable, and the constant uneasiness among them. They are disturbed every few days by the heat and do not really settle down quietly enough to winter well. As a consequence of all this they consume far more honey

than is good for themselves or their owner, and often before the latter is aware the honey is all used up and the bees starve. Another trouble consequent upon the large consumption of honey is a great tendency to dysentery. Our endeavor should be to keep the temperature of the air within the hive as unvarying as possible. With bees packed in the cellar or bee house we will have little trouble but with those in the clamp it is another matter. During severely cold spells the hive entrances should be kept almost closed; in "reasonable" weather they should be wide open, and during mild spells—open and shaded from the sun so as to keep the air as cool as possible inside the hive. During warm spells, when there is no wind and when the air is really warm, leave the entrances open and unshaded for a few hours each day that the bees may fly. At all times keep the entrances clear of dead bees, snow, ice, &c., protect from all winds, and find the bees candy during flying spells when short of stores. Don't let them starve.



CHESTNUT TREE. See page 355.

the case of section honey. It should be made attractive to the eye and satisfying to the taste; and should bear the name of the producer upon each package of this kind, however small.

The greatest care should be taken to prevent the surface of the comb being soiled or broken. If so disfigured it should not be put upon the market unless it can be sold without the producer's name. The sections themselves should be scraped and sandpapered till they shine, and the crates should be either white and clean or nicely stained or painted. Each package should "set off" its contents. Honey should not be sent to market in the half stories or cases of the hives, but in nice white crates made for the purpose with glass at one side at least. There is a great deal in a show of honey, and so

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## PRIZE ESSAY.

## How can Public Expenditures for Agricultural Purposes be Turned to the Best Interest of the Farmers?

BY J. S. PEARCE, LONDON, ONT.

The "best interests of the farmers" are not looked after as they should be, either by those who have the control of our public expenditures, or by the farmers themselves. Those who should look after this matter seem to be the most indifferent about what should be for the farmers' interests, and are slow to move or say anything on the subject. What is there to hinder farmers from taking steps to express their views either through the public press or by other means? Instead of taking the lead and saying what they want and what they claim as their rights, they are really led by men and parties who know and care very little about them, provided they can get their "vote and influence" at election time. No doubt the cause of this apathy and indifference is caused by a want of organization and some medium by which they can be brought in contact with one another. Farmers are too isolated and don't take any steps to remove this isolation.

Every school section in the country should have a farmer's club for the discussion not only of the best kinds of stock and how to grow big crops of grain, roots, &c., but for the discussion of any public questions pertaining to their interests. This club, to be a success, must be conducted without any political bias, and solely for mutual good. These meetings and discussions, if no other good came of them, would do much to remove the narrow-mindedness and expand the views of our farmers. Exchange of thought and opinion, and hearing both sides of the question, is the only way in which any individual can arrive at a fair and honest conclusion.

My object in writing these remarks at the outset of this article is to throw out the hint for farmers to say more, write more—yes, and to do more on this most important question, viz., that which heads this article.

The expenditure of public money is very important question, and one which all should study carefully. Who does not know that the key to success in farming, or any business, is the close attention paid to the expenditure of money? Then why not the public funds? This is a matter that should concern each and every one.

To my mind those who have the control of our agricultural expenditures are commencing at the top instead of the foundation. If the base is faulty the superstructure cannot stand, and we all know that without a good base or foundation it is a waste of time and money to build the superstructure.

Let our Governments, both Local and Dominion, set about the education of the children in matters pertaining to the garden and the farm. If a taste for farming and gardening were instilled into the child's mind from the time he begins to read and write, both by parents and school teachers, we would soon see a change in this respect. How is this to be done? By *Industrial Education*. To my mind this is the foundation which parents and our

governments should build upon, if they want the rising generation to be an industrial class. And just here let me say a word to parents on this most important matter. You have the moulding and directing of your child's mind and tastes. As soon as the boy can walk he begins to be an imitator of his father. He will imitate his virtues and his vices. At five years old the boy who is much with his father is his father over again. At that age he conceives it to be manly to imitate his father. Why is it, then, that the father cannot train that mind to think as he thinks? He can make a man of him, or he can transform him into a dudish nothing. He can inspire him with a high regard for the industrial pursuits, or he can cause him to hate them. If the father makes his calling a work of drudgery, he will not like it himself, and will be constantly complaining of his condition. This the boy will very quickly understand, and will begin to look upon his father's occupation with contempt, and will begin to cast his eyes about for something better, or a more pleasant occupation.

I think it is quite time there was some change made in our Public School system,—high time that it was transformed into something that would give some recompense for the time spent by our children at the public schools, and prepare them in some measure for the kind of life and occupation they expect to lead. Let the surroundings of the school, and the interior as well, be made more attractive. To me it seems a great pity that there is not more attention paid to the improvement of our Public School grounds. How easily they might be improved, by having the yard cleaned up, the fence made tasty and painted. A few vines and creepers over the doors and windows, with a clump of elms or any other tree in each corner of the yard, and a few shrubs and ornamental trees at other points. Why do trustees not take more interest in these matters, for most assuredly it will add to your children's happiness, and your own as well? By so doing you are cultivating a taste for neatness and refinement, and to my mind these are just as essential as knowing how to read and write. But in this, as in all other matters about the school, there must be hearty co-operation, and the teacher should be the moving spirit.

If trustees and teachers will not do their duty, and fulfil the obligations that they owe their pupils, then let the government take the matter in hand and assist each section to a certain extent, and see that these duties are duly and faithfully performed. Let the government see that the base or foundation is well laid. Let them look to it that part of a school teacher's study and examination shall consist of a fair amount of knowledge of agriculture and gardening. Let there be some inducement held out whereby teachers may be inclined to follow teaching as a profession, and not as a stepping stone, which is largely the case in the rural sections. Right here is where the greatest good can be done to assist the farmers. Let the aim and object be to elevate, refine and prepare the coming generation to be good citizens, and you have settled the future of this country. An American senator once said at a State fair: "Your common schools, where your children are mainly educated, should re-

ceive your first attention. Therefore select your very best men for school trustees—men of discretion and intelligence. Take your next best man for supervisor or town commissioner to aid in enacting local laws. If you have another good man left, try and elect him as a member of your State assembly, and then, if you have another man left who has about half brains, send him to Congress."

The next step would be one or more industrial schools where the boy can study and work together, either in the workshop, or on the farm, or in the garden.

The industrial school movement in the United States is making good headway, and is fast gaining ground. Experiments that have been made clearly prove that boys who give half their time to manual labor in the school work-shops, get on with their books quite as fast as the boys who give all their time to study. The use of tools in many cases results in mental quickening, and awakens the perceptive faculties and develops the powers of concentration and judgment. It helps to attach them to the school, and gives vent to their surplus energy, and fills the mind with mechanical projects which usefully employ the time which would very often be wasted in some mischief or useless exploit. To my mind a good industrial school would be far more beneficial to the rising generation than five model farms.

Let the aim of those who have the expenditure of public money be to raise and elevate the class for whom the money is expended, and make them more intelligent and better citizens. Make them feel that they have a part and duty to perform in solving the problem of the future of this country. Educate them to know that they have the responsibility of citizenship upon them, and that they should do their duty to their country, not only by increasing its wealth by the cultivation and improvement of the soil, but by the intelligent selection of those who shall act for them in the enactment and execution of the laws of the country.

I have written this article more with a view of urging and setting the readers of the *ADVOCATE* to thinking and acting on these important matters. I say most emphatically you have the matter in your own hands. If you do not put the right men in office to serve you, or if the men you have sent to represent you have not done their duty, you have the remedy in your own hands.

The Rothamsted experimental wheat plot, on which a crop has been grown successfully for forty-two years without any fertilizer whatever, yielded fourteen and seven-eighths bushels to the acre this season, and the grain weighed sixty-one pounds to the bushel. The average yield over the whole of the United States was this year but ten and one-half bushels. The plot at Rothamsted, which has been dressed with barnyard manure for forty-two years, yielded this year forty and one-eighth bushels per acre, while the average of the plots dressed with artificial manures for the same period, was but thirty-three and one-eighth bushels. In previous years the artificial fertilizers have almost invariably produced better results than the farmyard manure. This difference is unusual and must be attributed to special conditions of the weather. It would be interesting to know just what those conditions were,

**Stock.**

**A Chatty Letter from the States—Chicago Fat Stock Show.**

FROM OUR CHICAGO CORRESPONDENT.

Some time ago the fear was expressed that the Chicago Fat Stock Show idea might be abandoned as an unsuccessful undertaking, and at the time there seemed to be very good reasons for thinking that the show was not on a very substantial footing. But the exhibit this year has so far exceeded the expectations of those interested, both as to quality and quantity, and the attendance has been so much larger than ever before, that new hope has been revived.

Heretofore the patronage of [the institution has been so small that expenses have not been paid, and the managers have had to fall back upon the generosity of the liberal-spirited citizens. But this year nothing of the kind was needed, as the attendance was very large throughout, and the financial outcome of the eighth annual show was reasonably satisfactory to all concerned.

In former years the weather had been extremely cold during show week, but this year finer fall weather could not have been had. The city people this year took a much greater interest in the affair than ever before, and the chances are now that the show will, without doubt, become a settled, permanent institution of the city. Heretofore it has been largely experimental.

An important objection raised to the conduct of the show is that it is under the control of the Illinois State Board of Agriculture, while it pretends to be an exhibition of national character. This objection has been urged by those outside of the State, who have felt that they did not receive justice in the matter of premiums, and there has been strong talk that the institution would have to be made national in fact as well as in name. If it were truly a national organization, the management, especially of the premiums, would not be in the hands of men from one State only. But it cannot be denied that since the Illinois State Board inaugurated it and has at all times held itself alone responsible for the deficiencies incurred, that it should have the right to dictate the management.

Whether or not this annual exhibition has been productive of unmixed good is an open question. One thing must be said in its favor, and that is that there have been no illegitimate, catch-penny frauds, gambling or jockeying, with their attendant train of evils such as one finds at the average fair. It has not thus far been perverted into a second class circus.

Doubtless the question of early maturity is the one that has been most affected, and it must be admitted that the real progress in this direction, as exemplified in the work of such veteran breeders as Col. Gillett, has been wonderful. Beeves that were made in four years are now surpassed in two and a half. The question is, has the pendulum swung too far?

It is said that the followers of a reformer will go further and to more fanatical extremes than he ever dreamed of. Somewhat so in the matter of early maturity.

The old fashioned four and five-year-old

beeves very properly gave way to those matured at twenty-five to forty months of age, but the momentum which the idea of early maturity received when Col. Gillett declared that it was useless to keep a steer longer than three years, has caused zealous advocates to talk about the profitableness of beef at 18 to 20 months of age.

In the Fat Stock Show just closed, was a thoroughbred 16 months' old Shorthorn steer that for beauty of outline and symmetry of form was almost perfection. The steer, "Cleveland," belonged to Elbert & Fall, of Albia, Iowa, and had been fed carefully and freely from birth. He weighed 1,290 lbs., having made an average gain of 2.60 in 497 days. This animal won three first premiums; first in his class, sweepstakes for yearlings and sweepstakes over all Shorthorns in the show. And what is more, this wonderful youngster was so perfect that had it not been for his age he would have been considered by the judges in the grand sweepstakes ring. But this would have been rushing matters too much to have put an animal between veal and beef at the head of all the three-year-olds in the building.

This goes to show that the Shorthorn men have more to crow about in the matter of early maturity than the breeders of any other class; though it is not an uncommon idea that the Herefords make better "baby beef" than the Shorthorns. But it is rank nonsense to set such a coddled hot-house youngster ahead of out-door, practical cattle such as John Gillett puts on the market at two and a half and three year old.

There were no Canadian exhibitors this year. It was supposed that after a Canadian captured the grand sweepstakes last year that they would come again. Perhaps they wish to stop now while their credit is good—and until they are assured of better judging than they had to stand for several years. It is the first year since the show opened that there were no Canadian competitors. But John Hope and other Dominion people were among the onlookers.

The growth of the live stock industry throughout the west is large, and steadily increasing. Notwithstanding the very large amount of stock being handled by smaller points in the west, Chicago continues to grow as a market centre.

The following table shows the banner days, weeks, months and years at Chicago:

LARGEST RECEIPTS IN ONE DAY.	
Cattle, Aug. 27, 1885.....	12,096
Calves, Sept. 1, 1885.....	1,773
Hogs, Dec. 5, 1884.....	66,597
Sheep, Feb. 24, 1885.....	10,937
LARGEST RECEIPTS OF STOCK IN ONE WEEK.	
Cattle, week ending Oct. 20, 1883.....	52,192
Calves, week ending Sept. 12, 1885.....	4,369
Hogs, week ending Nov. 20, 1880.....	250,488
Sheep, week ending Feb. 28, 1885.....	31,688
LARGEST RECEIPTS OF STOCK IN ONE MONTH.	
Cattle, October, 1883.....	217,791
Calves, September, 1885.....	15,449
Hogs, November, 1880.....	1,111,997
Sheep, January, 1884.....	103,119
LARGEST RECEIPTS OF STOCK IN ONE YEAR.	
Cattle, 1885.....	1,878,944
Calves, 1884.....	52,353
Hogs, 1880.....	7,059,305
Sheep, 1884.....	801,630

The entries included a goodly representation of all the leading breeds of beef cattle, and a

nice display of Holsteins, Jerseys and Ayrshires.

The grand sweepstakes animal was the 3-year-old grade Hereford "Regulus," age 1,306 days, weight 2,345 lbs., daily gain, 1.79. But in the dressed beef contest "Regulus" stood no show against J. J. Hill's 3-year-old Shorthorn-Angus steer, 1,383 days, 2,140 lbs., showing a daily gain of 1.55. The quality of the latter's beef was excellent, though the gain per day had not been so great as was made by many competitors. In the two-year-old carcass class Seabury & Sample's Hereford steer took the premiums, and the prize for yearling beef was awarded to the carcass of the Sussex steer, 705 days, 1,380 lbs., average gain, 1.95, entered by Overton Lea, of Nashville, Tenn.

And thus we see again failure of the knife to indorse the judgments in the rings for live cattle. Not an animal that won on the hoof was recognized in the slaughter contest.

The large hotels bought the carcasses of many of the cattle exhibited. They paid \$6.00 to \$8.00 per cwt. for animals, considering percentage of waste in excessive fat, not as profitable to the consumer as many plain cattle selling at the Stock Yards at \$4.50 to \$5.00. But then there is a good deal of that kind of business that is charged up to "advertising."

The displays of sheep and hogs were very poor, and it was truly said that one might select at the Stock Yards whole carloads of porkers superior to the best shown.

There was a nice display of horses, chiefly heavy draught.

The dairy department was a magnificent success and was a very important feature. But the butter men were so highly incensed at the management for admitting butterine displays, that the National Butter and Cheese Association may refuse to co-operate next year.

**Cooking and Grinding Food for Stock.**

BY MARSHFIELD.

I readily respond to your request to ventilate this subject. As in the investigation of a other agricultural questions, the authorities must first be searched out and weighed. If it can be shown that a majority of our farmers commenced and continued the practice of cooking food for stock, this would be strong presumptive evidence in its favor, but no proof of its advantages; for in late years many old theories and practices have had to succumb to the scrutiny of close investigation. Moreover, farmers have not had the facilities for making accurate tests; and when it is known that some accurately conducted experiments have shown favorable and others unfavorable results, the conclusion can easily be drawn that little reliance can be placed on the evidence of ordinary farmers. The fact is that many of the most enthusiastic advocates of cooking have abandoned the practice. We hear a great deal about their ardor, but profound silence is preserved in the cooling off. A recent enthusiast, to whom I attempted to explain the philosophy of the question, told me that "What's good for man is good for beast" was logic enough for him. I informed him that "beast" was not yet an entirely artificial creature; natural man lived on figs and nuts; this was before the age of dyspepsia, and there were giants in those days,

There being now a boom in the United States in favor of food cooking, I have carefully weighed the arguments of the live-stock organs. The sum total of their philosophy is this: Heat bursts the starch granules and makes the food more digestible. This reasoning assumes (1) that the food is all starch, and (2) that it is desirable to make it more digestible by artificial means—both of which assumptions are as absurd as they are ruinous to the interests of the parties whose cause the organs presume to espouse. Let us first examine the process of nutrition and the effects of heat on the different constituents of the food, then compare the results with the most accurate feeding experiments that have been conducted.

Granting that "heat bursts the starch granules," the effect of heat on the other constituents still remains to be considered. Starch and its equivalents (sugar and cellulose) are the most worthless compounds in the food, and most foods contain them in too great abundance, so that unless it can be shown that the other constituents are not proportionably injured by cooking, the theory falls to the ground. The fats of the food are liquified by the heat of the body and become absorbed, so that the cooking of the fats would be a wild speculation. With regard to the albuminoids, the most valuable of the food constituents, it is well known that heat coagulates albumens and renders them less digestible. It does not require a high temperature to effect this condition. Starch, before it can become absorbed into the circulation, must be made soluble by being changed into sugar. This change is not effected by cooking, but requires first the action of the saliva obtained in the process of mastication, a further solution of starch and cellulose (crude fibre) being effected in the intestines partly by the action of the pancreatic juice and partly by fermentive processes. It can readily be observed that the tendency of animals is to swallow cooked foods with little or no mastication, so that the practical effect of cooking is to shift the work from the jaws to the intestines, overburdening the latter, which is certainly a very undesirable object. Not only so, but mastication is required for the albuminoids of the food, not on account of any chemical action of the saliva, as is the case with starch, but for effecting a fine mechanical division, thereby lightening the burdens of the stomach. The albuminoids are attacked by the gastric juice in the fourth stomach of ruminants, and converted into diffusible substances. It is quite probable that the albuminoids of cooked foods require more mastication than those in raw foods.

These facts are well known to physiologists, but for more practical results it is considered desirable to carry out accurate feeding experiments, so that if any discrepancy arises, the causes may be investigated. The most accurate and extensive feeding experiments which I have yet seen reported were conducted at the Maine Agricultural College, pigs having been used for the purpose, and the test period covered nine consecutive years. The following statement gives the average results:

In 1870 the value of cooked meal to raw meal was as 95.5 is to 100; in 1871, as 74.8 is to 100; in 1872, as 82 is to 100; in 1873, as 91.6 is to 100; in 1874, as 98.8 is to 100; in 1875, as 73.3 is to 100; in 1876, as 88.8 is to 100 in 1877, as

64.2 is to 100; in 1878, as 78.5 is to 100; average for 9 years as 83.3 is to 100.

According to these figures the average loss in the cooked food amounted to 17 percent, without taking the extra cost for labor, machinery, etc., into the calculation.

I usually place considerable reliance in those painstaking experimenters who have distinguished themselves in their profession, but there are conditions connected with the above tests which impair their practical usefulness. In the reports which came under my notice, no mention was made of the albuminoid ratio of the foods consumed. I can hardly believe that the experimenter omitted this important feature; but it is quite possible that I only saw a synoptical form of the reports. From the physiological laws already laid down, how can it be possible that many feeding experiments have produced reverse results? It is quite probable that a high albuminoid ratio—a ration that is over-rich in flesh-forming constituents—would, in some instances, be benefited by cooking, while a wide albuminoid ratio—a ratio containing an excess of starchy matter—would usually produce contrary effects. A great deal would also depend upon the relative vitality of the organs of digestion, which varies materially in individuals as well as breeds. In a high albuminoid ratio of cooked food, the value of the solid excrements would be largely increased, whereas a high ratio of raw food would increase the value of the liquid excrements. Apart from any speculative view, the farmer will now see (1) that the partial destruction of the most nutrient principles of the food for the purpose of enriching the solid excreta is not practical at present; (2) that the cooking of a high and expensive ratio for the purpose of balancing the burdens from the jaws to the more delicate organs is an exhibition of insanity. Health and thrift can only be maintained when all the organs of the body are duly exercised in proportion to their strength.

Compare these observations with the deplorable condition of the human race. Dentists are expressing alarm at the rapidity with which the human teeth are becoming obsolete; and under the mad delusion that artificial machinery should supplant our jaws in the manufacture of digestible food, our digestive organs are also threatened with extinction. In our dietetic habits, we not only fail to take the kind of nutriment which builds up the toothy and other osseous structures, but a double loss is inflicted by our neglect in making our teeth fulfil the duties imposed upon them by nature.

Closely allied with this subject is the question of grinding food for stock. Here again the object is, of course, to prevent calamity from befalling the jaw bones. If the jaws and their auxiliaries, the teeth, are incapable of performing their duties, the farmer can easily ascertain the fact; but it seems to be necessary to allow the other digestive organs to become deranged in order to encourage veterinary science, or quackery, according to the necessities of the case. The work must be done, and if Mr. Jaw is too lazy to do it, he shifts the responsibility on Mr. Intestine. It seems to be an inflexible law of nature that the strong oppress the weak, both thereby becoming weaker, and the time may come when there will be nothing fit to survive.

In feeding stock the question is not, Should the food be ground? but, How can it be prepared so as to secure the most efficient mastication? Show me the eating habits of the animal and then I will explain. If the food is to be gobbled down, let it go ground rather than whole. Don't keep animals that require ground food. When the digestive organs have strong vitality, less mastication is necessary. By cutting the coarser fodders and mixing them with the grains and by-products, much can be attained. It is not worth while drawing a distinction between ruminants and non-ruminants; look at the hog—it can digest almost anything, while the ox, with all his grinding facilities, may be said to require more "cud." I might also dilate upon the advantages of grinding and cooking food for old, toothless animals, but I purposely confine my observations to profitable undertakings, leaving other writers to expend their powers in other directions.

#### An Apology for the "General Purpose" Cow.

We have been abused for denouncing the "general purpose" cow, but no facts or figures have ever been advanced to prove to us that beef and milk in the same animal are quite consistent. The whole issue depends upon the definition of the word beef. Our fat stock shows have disseminated the impression that fat is beef, and it was chiefly for the purpose of expelling this popular delusion that we urged our arguments so forcibly. None but the Short-horn breeders have taken offence, for it is not claimed that any of the other popular breeds possess "general purpose" characteristics. Now that the truth is becoming popular amongst the authorities, although not amongst the speculators, namely, that genuine meat consists of muscular tissue, not of tallow or lard, we are enabled to present a phase of the question which must be particularly pleasing to our Shorthorn breeders.

If, according to Prof. Arnold, milk is, in part at least, derived from decomposition of tissue (lean meat), then the more muscular tissue, the more milk. There is nothing inconsistent in this, and every observing farmer must have noticed that cows which have their bones well covered with lean meat may be excellent milkers. The N. Y. Tribune pertinently puts the question in the following language:

It is pretty evident that feeders and breeders are beginning to consider the demands of the consumer, that in first-class butchers' meat there shall be more lean and less fat, or, in other words, a maximum of tallow shall give place to a fair proportion of tender and juicy meat. The consumer who now buys a joint of first-rate ripe beef, mutton or pork, pays for three pounds of fat and bone to one pound of lean, and the fat being good for little else than soap grease, the portion available for eating costs him three prices. It is worth while, perhaps, to consider the changes which have taken place in the character of butchers' meat within fifty years or so, and how fat has usurped the place of lean.

Then, if, when a steak or joint was bought, the butcher ventured to remove a portion of the fat, the buyer protested, being desirous of getting as much fat as possible, not only because it was scarce, but more because the fat of those days, when cooked, could be eaten with relish. But now the consumer insists that the dealer shall give him as little fat as possible, because he has more of it than he knows what to do with, since, when cooked, it cannot be eaten. The difference between the quality of the fat

of fifty years ago and that of the present consists in this, that formerly fat was made up of cell tissue, the result of the then system or manner of feeding a class of animals in which the flesh and muscles were developed in a much larger proportion than the fat and fatty tissues.

Now, the system of feeding having been radically changed on account of the abundance and cheapness of corn, the entire animal has been changed, too, in its physiological make-up, and has become little more than an animated frame on which to hang a maximum of fat, with a minimum of lean. Take the prize fat steer, for example, and note the six or seven inches of pure fat or tallow covering his back and sides; note the champion wether of the same class, with a blanket of four or five inches of suet over his shoulders, and look at the prize fat pig, smothered under six or seven inches of lard, and though each may weigh enormously for its age and race, the amount of eatable substance in the dressed carcass does not much exceed that obtained from the carcass of an animal in fairly good condition for slaughter, of half the weight.

That is, the aim seems to have been to produce fat only, with small regard to the increase of lean; and this, because it appears to be understood that, if an animal is fed high for a long time, the result will be fat out of all proportion to lean. But the fact is, some races or classes of cattle, sheep and hogs run to lean and others to fat, and, it having been proved that when corn is abundant and cheap, tallow and corresponding weight is put on cheaper than muscle or flesh, breeds and races of the latter characteristics have been chosen to multiply from in preference to the former. This the consumer appears to have found out, and in future will demand that his beef, mutton and pork shall have a due proportion of lean and fat, whether steak, chop, joint or roast.

It being well known that animals can be fed for lean as well as for fat, it is quite reasonable to suppose that the cow of the future will at the same time be the best beef, in which case the Shorthorns have a bright prospect. A large majority of our Shorthorn men are on the right track already, not having ruined their animals for exhibition purposes.

Two forms of prejudice must be broken down before the desired end can be attained. At our fat stock shows, it is the custom for "fashionable" people to purchase those huge monstrosities of fat; of course, a fashionable Christmas can no longer be spent without consuming the tallow from loins of royal lineage, or from beeves raised by aristocratic breeders—our Government for example. Anybody who cannot relish the delicious, juicy flavor of their Xmas grease, would, of course, be banished from society—a death penalty, sure enough.

Another prejudice to be overcome is that there is more money in "baby beef." There is also more money in oleo. than in genuine butter; more in gambling than in honest toil. Granting that a few speculators make more money by obtaining top prices for their filthy stuff, all this operates against consumers and against farmers who desire to place honest beef upon the market.

We have also been accused of writing against "early maturity." This is untrue; we submit to no man in our appreciation of the value of early maturity; but this we emphatically assert, that there is no relation whatever between "baby-beef" and "early maturity." Early maturity is encouraged by selection in breeding and rational feeding, not by forcing and stuffing. These fat stock shows have been inaugurated in the interests of the towns and cities in which they are held, not in the interests of the farmers. Stock jobbers, as well as other people,

need government jobs, and so long as this continues, the real stock interests of the farmers will be totally ignored.

#### Wintering Working Horses.

There is a prevalent notion amongst many farmers that their teams should rest and be well fed throughout the winter in order that they may come out for the spring work sleek, fat and fiery. In preparing horses for sale, this practice might be a financial success to the seller, providing the buyer prefers external show to intrinsic worth; but this mode of wintering farm teams must result in a treble loss,—a waste of food, non-performance of work, and a falling off in stamina.

To some extent it is a fault of our climate that much team-work cannot be done in winter, but most farmers make the practice of doing too much teaming in the fall, which should be done in winter, leaving the field-work imperfectly performed. There are many ways of distributing the work more evenly over the seasons, and there should be no excuse for killing the horses with work one portion of the year, and killing them with idleness another. The best results can only be obtained when the teams are kept at constant work to the full extent of their capacities without being overstrained. It is only by keeping good teams that you can afford to keep good men to handle them. By high feeding and straining labor, horses may yield large profits for a few years, but length of use is of very material consideration in the profitable employment of farm teams. But this method is too theoretic for practical use, there being times when all farm teams must be unemployed; but the nearer the method is aimed at the better both for the farmer and the horses.

The question is often asked, What kind of and how much feed should be given to a horse? Although the answer depends materially upon a great variety of circumstances, yet we think it would be well for farmers to adopt some standard, and vary from it according to the special conditions of each case. The street-car companies in the United States have done much towards establishing a standard for working horses, and here it is also where we find the highest standard of health. It has been found that health, strength and longevity can be materially increased by judicious feeding, and that most of the common ailments arise from neglect of this important feature. Street-car companies get far more work from their horses than farmers get from their teams. This is chiefly owing to the lack of competition amongst farmers, whereby every little source of profit is not sharply looked after.

These companies have ascertained that a 1200-lb. horse at steady work will consume a daily ration of 16 lbs. of ground corn and oats mixed with 16 lbs. of finely cut hay. This is the average ration, the individual capacity of the horses varying considerably from this standard.

In Canada, where little corn is grown, the farmer will naturally ask, What am I to substitute for the corn meal? There is not a great deal of difference between the feeding values of corn and oats, so that both may be fed in about the same quantities, although much corn is more injurious than a large ration of oats,

the former containing an excess of heating substances. Farmers do not pay enough attention to bulk in feeding their horses. It is painful to see a team plunging into heavy work with the stomach abnormally distended with bulky food. By this we mean a food which must be eaten in large quantities before a sufficient supply of nutriment can be obtained. Especially for fast work, the food should be concentrated. The horse having a less capacious stomach than the ox tribe, the bulkiest foods should be fed to the latter. For this reason the early cut, well-cured hay should be reserved for the horses, in which case very little oats will be necessary when they are standing in the stable for a considerable portion of their time. When the hay is coarse, late cut and badly cured—in other words, too bulky—it should be fed with food even more concentrated than oats, so that it would then be advisable to mix the oats with bran, especially when the animal is troubled with constipation. An occasional feed of oil meal, say  $\frac{1}{2}$  to  $\frac{1}{4}$  lb. to each feed, is also an excellent addition to a bulky ration, and succulent foods, such as carrots or apples, should not be discarded.

Mares in foal should be worked as constantly as other horses, but more cautiously; the work, however, should be less straining. If you have no work for them, they should be regularly exercised, and their digestive processes should be frequently observed.

If the stable is tolerably comfortable, blanket-ing may be dispensed with, except when the horses are undergoing sudden lowerings of temperature, either by lack of exercise or by the state of the weather. No rule should be so strictly enforced as cleanliness, both with respect to the stalls and the bodies of the animals. The ventilation should be easily controlled, and there should not be too great extremes of light and dark. Don't take a horse out suddenly into the glaring sun, especially when a strong light dazzles from the snow. Grooming warms the surface of the body by quickening the circulation of the blood, and does not let in the cold as some suppose. Nothing can be more unhealthy than a condition which tends to close the pores of the skin.

The Drovers' Journal, Chicago, says: What's the difference whether it's glanders, pleuro-pneumonia or measles? The cow doctors must have employment, and it seems that to bring about this end, we must have some one or all of the above named afflictions. We do not refer now to the honest, reputable men who earnestly have at heart the best interests of our great country, and who would scorn to make the public suffer that their pockets might be lined.

In a paper read before a recent meeting of the Liverpool (England) Veterinary Association on the subject of soiling, the writer sums up the advantages of the soiling system in the following condensed form: 1. Increased production of milk. 2. Superior quality of milk. 3. Better condition of animals as compared with those grazed. 4. Economy in consumption of food. 5. Great saving of land. 6. Waste land now occupied by fences, materially dispensed with. 7. Increase in the quantity and improvement in the quality of manure. 8. Value of land produce increased. 9. Protection afforded stock against various forms of disease, infectious and non-infectious, and parasitic invasion.

### The Dairy.

#### Making Good Butter Under Bad Conditions.

The impression prevails that good butter cannot be made under adverse circumstances.

While passing through the dairy buildings at the Dominion and Provincial Exhibition held in this city, we noticed a tastefully arranged exhibit owned and presided over by Mrs. C. Sir Charles Tupper and a host of leading dairy-men were examining it, and the quality was pronounced to be so fine that Sir Charles invited the lady to take a similar part at the Inter-colonial Exhibition to be held in London, Eng. The fine flavor of her butter and her cream prompted us to make minute inquiries into her system of manufacture.

Mrs. C. keeps a milk and butter depot in this city, and we are aware that she has a large number of select customers for her butter and cream, always obtaining the very highest market prices. We were specially solicitous of obtaining a knowledge of her methods, as she is very pronounced against scientific systems, believing that success can be achieved only by practice. She never reads any dairy literature, and we were led to believe that her system was quite antagonistic to the scientific. We noted her evidence as follows:

I learned butter-making in Devonshire, but I don't practice the old-country method now. I have been constantly improving it by experimenting until I have effected a radical change. I raise the cream in Cooley cans by submerging them in cold water. I keep a stream of cold water flowing in, allowing the warmer water to escape. I don't like ice-cold water, as it chills the milk too suddenly. I let the milk set 12 to 24 hours in summer and 36 hours in winter. I can easily tell by the blueness of the milk when all the cream is raised; the bluer the milk the less cream it contains. I don't use the Cooley in winter; I prefer setting 8 or 10 inches deep in pans or vats. I take no account of the temperature, but I keep the milk in a cool place. I keep my cream in a cellar about 12 hours at a temperature of about 60°; it then generally begins to get a little sour. I always skim sweet, for I sell my skim milk. Sour cream makes more butter than sweet, but the butter does not keep so long. I pay little attention to the keeping qualities, for all my butter goes into immediate consumption. I churn at 62° in warm and 64° in cold weather. I can guess these temperatures to a nicety, but I always make the girls use the thermometer. I set the cream in warm or cold water until it reaches the desired temperature, and keep it well stirred. When I have creams of different ages, I mix them thoroughly and keep them at the churning temperature over night; the cream then churns quicker, and the quality of the butter is better, although not so good as from cream more of one age. Here is where I labor under a disadvantage as compared with the creameries, for I churn from odds and ends of cream. For a good keeping butter, all the buttermilk and water must be thoroughly worked out; this must be done while the butter is in its granular form, but much working will injure the flavor and keeping qualities of the butter. Washing is better than working. For extra quality and long keeping, strict attention must be paid to all the details. I don't know how much salt I use, but I use much less than other butter-makers. Salt helps to keep the butter. I have no chance to make an extra quality, for I sell all the milk I can and usually make butter from what remains standing for a whole day, there being then a loss both in quantity and quality. I have made good butter from cream kept in ice for two weeks. I buy the milk only from the best farmers, and if it does not come up to my standard, I advise them to sell it to somebody else.

Those who have studied the principles of butter-making as already published in the *ADVOCATE*, will readily perceive that Mrs. C. is extremely scientific in all her manipulations—except, however, the effect of salt on the keeping qualities of butter, with which she has conducted no experiments. In our April issue we pointed out the difference between the American and the Danish school of butter-making, the latter having been introduced into this Province by our Government. Mrs. C. belongs to the American school; for she joins Prof. Arnold in the cry that "ice must go."

How are we now to explain this paradox? Here is a woman who rages against book butter-making, and yet she is perfectly scientific in all her operations. Some of her reasons for her methods are perfectly sound, but in the main she has arrived at correct results from false premises. She admits that it would be well to be able to give correct reasons for everything. Query: Does it pay to study the principles of farming? Basing their arguments on Mrs. C.'s case, we should like to have an answer from some of our level-headed farmers.

Three points have struck us very forcibly: (1) It is unwise to argue very stubbornly against things which we know nothing about; (2) Had butter-making been an old science instead of one in its infancy, Mrs. C., by the scientific method, would have been as good a butter-maker twenty years ago as she is to-day, and would have saved herself all the trouble and expense of experimenting; (3) A given result cannot be false in science and true in practice.

#### Those Butter Tests Again.

Some people are such servile slaves to prejudice that they defy those who play upon their passion strings, and abuse those who calmly attempt to appeal to their judgment. This is most strikingly illustrated in journalistic life. When the end of the year comes around, "*Stop my paper!*" is the grateful eulogy which greets the independent editor who aims to instill the minds of his readers with sound principles and with a love for truth.

Happily, such people are rapidly vanishing, and their vacancies occupied by worthier citizens. Even yet truth is not often found on the popular side of a given issue, except when the writers appeal to men's reasoning faculties; it is as hard to go against popular enthusiasm as to kick against the fashions.

How do these remarks apply to our attitude on the question of butter tests? When all mankind appeared to be against us, we exposed the gross iniquities which underlie the system of testing the butter capacities of certain breeds of cows, pointing out that all was for speculative purposes, with a view to obtaining fabulous prices for certain strains of fancy stock. We were denounced as enemies of our stock industry, and morbid attempts have been made to snuff us out in order that darkness might prevail.

But the iniquity was far too palpable for the nineteenth century. What have those dairy luminaries now done? They have placed the control of their tests in the hands of an expert who has never yet succeeded in obtaining a phenomenal yield from any cow. This is certainly going to the other extreme, for all the government experiment stations have been

passed over, and Major Alvord, of the Houghton Farm, the only station in the United States conducted by private enterprise, has been selected.

Time and again have we refused to publish those fraudulent records which have been the means of ruining many an honest farmer; but we shall take special delight in publishing the results of the Major's investigations. He will not defile his good name by acting on unsound principles. These principles have already been published in the *ADVOCATE*, and we look forward with pleasure to the time when our farmers will be able to obtain truthful statements with regard to any breed which he contemplates to use in building up his dairy herd. We shall continue to defend the truth, and if you suspect that this policy will annihilate us before your next year's subscription expires, then all you have to say is, "*Stop my paper!*"

#### Fraudulent Butter.

The traffic in different sorts of vile stuff under the name of butter still continues in the United States, notwithstanding the stringent laws that have been passed for its suppression. It has been estimated that less than five per cent of the quantity consumed is sold under its legitimate name, but is disposed of as butter at the market prices of the genuine article.

The depressing effects of these swindles on the butter industry can easily be imagined,—also the effects on the health of the consumers. This happens, too, at a time when the butter-makers of the Union have been putting forth their utmost exertions to improve the standard of their butter, and make the industry one of the greatest in national importance, both in the home and the foreign markets. The price of genuine butter has depreciated 40 to 50 per cent within the past two years, and there are dull prospects for appreciable advance. The value of dairy stock has proportionably decreased, and these circumstances have had a depressing effect upon agriculture generally. It has been estimated that the butter frauds for the past ten or twelve years have cost the farmers of the United States half as much as the civil war,—not to speak of the losses to the consumers, or of the political, commercial and moral degradation of the whole people. One-tenth of the provocation would have given rise to a rebellion in other departments of industry; but the farmers, poor, tame creatures, patiently submit to the sight of their lands, their money, and their homes being exacted from them by speculators and monopolists. They have the political power in their own hands, but do not exercise it, and the government is therefore instituted for the speculative and against the agricultural interests. And yet the farmers are taught to believe that the remedy lies in heaping on heavier burdens, levying higher taxes, and increasing the public squanderings—all in the interests of soulless corporations. These evils and these losses are not confined to butter alone; there are still the cheese and the fertilizer frauds, and many others—all of which seem to be so deep rooted that their eradication is beyond hope. Add to these losses the cost of maintaining the army of analysts and other detectors of fraud, and the result is appalling to contemplate.

We are therefore pleased to see that a dairy-men's protective association of the manufac-

turers has been formed, and it is hoped that it will meet with the sympathies of the consumers, and take decisive action.

These observations should contain a note of warning to our Canadian farmers. We have already imported the American hippodrome under the head of agricultural exhibitions, which is sanctioned by our governments; if we cannot banish it, let us organize against further importations.

**Drying Off and Milking Before Calving.**

At this season of the year, when the feed in the pastures and pastured mowing lots is fresh and abundant after the recent rains, cows, and especially young heifers that are expected to come in for winter dairying, should be often examined to see that no serious inflammation gets into the udder. Abundant, juicy feed stimulates milk secretion much more than dry hay given in cold weather. It is also more difficult drying off cows in summer when feed is good, than in the beginning of winter, the almost universal season for drying off cows a half century ago. If cows are not properly dried off, if milk in considerable amount is allowed to collect and remain in the udder after ceasing to milk regularly, there is great danger from permanent obstruction of the milk flow in future. In drying off cows it is well to skip milking a few times before ceasing entirely. If the quantity secreted is not large, nature may be able to take care of it by absorbing it again into the system, but if the flow is large, the absorbing vessels are unable to dispose of the excess, and the milk then becomes as a foreign substance to be disposed of in the next best way not to endanger the life of the animal. The milk may become cheesy, and the cheesy matter may fill the milk ducts and permanently close them to the flow of milk. It is a good rule to milk a drying up cow just often enough to keep the milk ducts free from clotted milk.

As calving time approaches, extra care should be taken to see that the udder does not become too much crowded with milk.

Some are opposed to milking a cow, even ever so little, just before calving. We were recently told that milking at that time, and starting the "pith" from the teats, would cause a cow to afterwards leak her milk, a mere whim handed down from generation to generation without the least foundation in fact, and with no more reason than accompanies most other old whims. An easy milker may leak her milk whenever the udder becomes over-crowded, but a hard milker is a hard milker for life, and no amount of milking previous to calving can change her character in this regard.

The only possible injurious effect that could follow milking from an inflamed udder would be a little possible robbing of the unborn calf, and a changing of the character of the first milk the calf gets after birth. Milking clean several times previous to the birth of the calf, would make the milk more like common milk, while the first meal the calf usually gets is largely made up of what is termed colostrum, a substance that acts favorably on the bowels of the young calf. We have no doubt that we have saved valuable heifers as milkers, by drawing the milk, when necessary, several days previous to their first calving. Do not let a cow or heifer

suffer pain from an over-crowded udder before calving. It is all wrong and there is not a shadow of an excuse for it.—[Mass. Ploughman.]

**Skim Milk for Human Food—Milk for Infants.**

Prof. Arnold, in his excellent and exhaustive treatise on "Dairy Products as Food," says: Skim milk, when used alone, forms a more one-sided diet than milk in any other form. It can be better tolerated by the young and growing than by the old, but it is unsalted to either, and should only be used in connection with foods that are drier and richer in starch, sugar, or fat. Used in this way, it can be made to form part of a perfectly healthy diet. It is better suited for young domestic animals than for human use.

To be a perfect food for infants, milk must be of the very best quality. This remark is not meant to convey the impression that it must be very rich in cream, or any one of its other parts, but that it should be in as sweet, pure and perfect condition as possible. Cows' milk, as it averages when the milk of several cows is mixed together, is plenty rich in fat and other constituents, and often needs diluting. An excess of cream rather impairs than improves it for this class of consumers. An excess would be about as objectionable as a deficiency. It is important that it should come from a cow in good health and fed on sweet and wholesome food, for the quality and healthfulness of milk will vary with the character of the food from which it is made. To produce the best milk for infants, the animals giving it should neither be over-fed nor under-fed. One extreme would be as unfortunate as the other. Milk becomes vitiated when its secretion is over-stimulated. In part, at least, milk is derived from decomposition of tissue, and when this goes on too actively, fragments of tissue break away without being perfectly dissolved, and may be seen suspended in the milk. Those that are small enough to pass through an ordinary strainer remain in the milk, and by their rapid decomposition, affect its flavor and its quality. Milk from cows giving rather a moderate quantity is to be preferred for infants' use to that from cows producing unusually large yields.

When milk becomes irregular from extremes in feeding and secretions, it is greatly improved by filtering it through a sack of pulverized charcoal. Filtering through filter paper will improve it very much, but charcoal is better. The filter will catch all the objectionable solids, and the absorbent capacity of coal will take up all the prominent odors, and the milk will come out with a decidedly new and delicious flavor, and be much improved in a sanitary point of view, for whomsoever may use it. One who has never tried it will be surprised at the amount of offensive matter that will soon collect in the charcoal.

Nine-tenths of the so-called butter sold in Chicago is oleomargarine or some similar compound, according to the Health Commissioner of that city.

SIR,—Enclosed is one dollar for FARMER'S ADVOCATE. I like it well; I think it is the best journal for farmers I have seen yet.

Yours truly, WILLIAM O'LEARY, Lerette

**Poultry.**

**Poultry that Pays—No Diseases, no Weaknesses, no Deformities.**

First of all, I have a good poultry house on well-drained ground with a carpet a foot or more deep of horse manure and other fibrous material mixed with dry earth in such proportion that it never packs, but serves a good purpose as a dust-bath the year through, says O. S. Bliss, in N. Y. Tribune. It is high, roomy light, and provided with two distinct systems of ventilation—one for summer—the other for winter. It is double-boarded on the outside and celled up with matched boards on the inside as nearly air-tight as a carpenter can make it. It is not frost-proof, but is so near it that no egg was ever frozen in it and no fowl ever suffered discomfort.

The perches are placed high to secure better ventilation and more warmth, and are reached by narrow boards set at an easy angle for the fowls to walk up and down in the most leisurely manner. Under there is a shelf for the droppings, upon which coal ashes are sprinkled several times a week, all the ashes from the fires going regularly into the house every day, though not always directly under the perches. The nest boxes are under this shelf, though several other boxes, kegs and old dishes are nailed to the walls for the independents, of which there are always more or less in every flock. A heap of old mortar, a box of coarse gravel, the coal ashes and all the bones we get time to break, furnish all the earthy food.

Any kitchen scraps, once in a while a little meat from the slaughter-house and a frequent supply of mangel-wurzels furnish all the condiments. The regular food from January to January is wheat-bran and cornmeal in the proportions of two to one by measure. This is given them once a day in large, shallow boxes, where they can scratch and pick at their leisure. We do not require them to eat everything up before feeding again, but graduate the supply so as not to have any accumulation. We have never lost a hen or had a sick one under this system of feeding, and they keep in better laying condition than under any other we have ever practised.

Pure, clean cold water is kept by them, and it is changed several times every day, summer and winter. This is the most exacting feature of the whole business. To make sure that it is attended to, the stable pails are kept in the hen-house. We have experimented with warm water till we are satisfied to wholly discard it. We have set a pail of water at 48° Fah. beside water at 72° a great many times, and the fowls never fail to leave the warm for cold water. The warm water frosts the windows and the walls in cold weather, and chills the fowls by vaporation a good deal more than it warms them.

But our method of raising chickens is a still more radical innovation upon established usage. The hens are allowed the freest choice of nests. When they become established sitters they are given the eggs, each of which is marked. They are taken off each day and fed in the adjoining stable, from which a small spring door permits egress, but not ingress. At twenty-four hours old the chicks are taken from the nest and kept in a basket till the eggs are all hatched,

when one hen is given two nests of chicks in a coop with a small box for feed turned down before it. Sometimes a chick gets moist feed two or three times if it does not know enough to pick the dry feed, but never more than that.

At the end of the week the coop is replaced by an open box and the hen given her liberty. Feed boxes are placed at each end of the box for the chicks, but the hen is excluded and compelled to go to the boxes where the other hens get their feed for hers. Several small boxes are placed around the sides of the house, into which only the chicks can pass, and these are all supplied with feed, just the same as those for the old fowls. The hen broods her chicks in the box as long as she pleases, but she rarely stays with them more than three or four weeks, when she takes to the perches and leaves them alone.

The chicks stay in the box if they choose, but they, too, soon take to the perches. The memoranda on the boxes show that my first hen was given her eggs April 21, this year; the last May 4. June 24 every chick was on the perches. The expensive and annoying habit of keeping a hen to scratch and call a brood of chickens to help her two or three months is entirely done away with. The chicks are occasionally given a few millet seeds from the hand to gain their confidence, and they easily learn to come to take it without fear. The young chicks are given a few earth-worms to counteract any tendency to constipation when first put upon the dry, fine feed, and that is the only medicine they ever get or require.

We have heretofore had to contend with all the ills to which chickens are supposed to be heirs, and have used innumerable nostrums, scarcely ever raising a brood free from ailments. But for the last two years no lice, no gapes, no influenza, no deformities or weaknesses have invaded our precincts. Our eggs are large, rich and fertile, scarcely any failing to hatch; our chicks are healthy, vigorous, independent and rapid growers. The old fowls are now beginning to moult. We sold once nine dozen eggs per hen in the first six months of the year, besides all we used in the family, and that is the primary object of keeping the fowls.

#### Marketing Poultry.

In fattening for the markets remember that you will not only get pay for every pound your poultry gains, but by improving the quality you gain from one-fourth to one-half in price on the whole. This improved quality is more likely to be gained by feeding corn than otherwise. Give them all they will eat, and your poultry will be more yellow and better than that fattened on any other grain.

Keep stock from food for twenty-four hours before killing; because food in the crop injures the appearance, is liable to sour and consumers object to paying for this worse than useless weight. All poultry, but more especially turkeys, should be killed by bleeding from the neck, and picked immediately, while the body is warm. No strangled, scalded or wet-picked poultry will sell for more than half price. Always strip the blood out of the neck as soon as the head is taken off. The skin should then be peeled back a little and the neck bone removed in the usual way. Just before packing draw the skin over the end of the bone remaining,

and tie and trim neatly. The wing and tail feathers must be pulled out clean, and the intestines drawn through as small an incision as possible.

Be sure that poultry retains none of the animal heat when it is packed. It should be cold, but not frozen. Sort very carefully, and have "No. 1" stock of uniform quality. Each quality should be in a separate box, containing not more than 200 pounds, as greater bulk is more inconvenient to handle and more liable to get damaged. Never wrap poultry in paper or pack in straw. Line the boxes with clean paper, pack closely, pack upwards and legs out straight. Before the cover is nailed down, see that there is no possibility of the contents shifting about. In shipping, mark kind and gross weight on the cover. The name or shipping mark of the shipper should appear thereon, as well as the address of the firm to which package is sent. An invoice and full advices mailed as soon as the shipment is made will often save time and annoyance to both shipper and dealer. —[Boston Produce Exchange.

### Veterinary.

#### Infectious Abortion.

It is rare that this kind of abortion occurs before the third or fourth month of gestation; more frequently it is at the fifth, sixth or seventh month, or even later. There are no premonitory symptoms, except perhaps a trifling uneasiness for a few hours previously, with sinking of the flanks and descent of the abdomen; the animal generally looks well and hearty, and yields its supply of milk as usual; and soon after the fetus is expelled, apparently without any effort or inconvenience, and along with its membranes, if these are not ruptured, with or without them when they are. It is rare, however, that the ruptured membranes are rejected immediately after the fetus; as a rule they are nearly always retained, particularly when gestation is advanced; and they putrefy in the uterus, being got rid of in shreds only at intervals. Then the animal loses its appetite and condition, goes off its milk, and sometimes perishes, as a consequence of this placental retention. If it recovers, oestrus appears unnaturally often, though conception is unfrequent and sterility common; and, on the other hand, there are some animals which expel the membranes quickly, conceive soon after, but again abort as readily—perhaps three times in the course of a year.

The fetus is usually dead, though when it is expelled (in the cow) after the fifth month it may be alive; but it is weakly and soon dies, even when born near the termination of pregnancy. Barrier mentions that these calves make a rattling noise when breathing, accompanied by the discharge of a rusty-colored mucilaginous fluid from the nostrils; that they bellow continually, and are always emaciated and flabby, the gums and palate being pale, and the umbilical vessels livid and withered-looking. The dyspnoea and great weakness evinced by them shows that they are not properly organized. Those which are dead when expelled exhibit indications of having ceased to live a short time previously.

As has been stated, all the animals on a pasture or in a shed where the disease prevails, do

not abort at the same time, but at intervals. When one aborts, another—its neighbor perhaps—appears to prepare for the event, which occurs in about eight days; then some days after this it is the turn of another, and so on until two-thirds, or perhaps even all, of the pregnant cows beyond three months' gestation have miscarried.—[Fleming's Veterinary Obstetrics.

#### Abortion in Cows.

Abortion has been attributed to many causes, many of which may have little foundation in fact, yet they should all be avoided, especially amongst herds in which the affection has already existed. It has been discovered that a microscopic vegetable parasite (*Leptothrix vaginatis*), found in the passage of the vagina, if transferred from one pregnant animal to another, will produce abortion. The slipping of the calf before seven or seven and a half months after pregnancy is called abortion; after that time, the fetus may live out of the womb, and the name "premature parturition" is then given. It is a dangerous practice to allow the animal to breed before the body is developed.

Abortion has also been attributed to the following causes: Feeding excessive quantities of cooked foods; abrupt changes of temperature, usually when cold, rainy weather with bleak winds first sets in; keeping the cows in stalls with floor much inclined backwards, and in damp, foul, hot stables; excitement of any kind, especially sudden fear or fright, as when chased by dogs; strained exertion or fatigue; sudden pressure, or kicks or blows on the abdomen; eating coarse, indigestible foods, or an excess of over-stimulating food; eating certain species of plants, such as sedge, horsetail, rushes, savin, etc., and especially ergotized grains and grasses, smutty grains, and excessive quantities of damp, frosty foods; drinking impure water, especially when the system is heated; contact with or approach to decomposing animal substances; noxious effluvia, notably those peculiar odors which arise from abortion.

There are also internal causes which are a fruitful source of abortion, notably: Fevers; inflammation of the bowels; uterine diseases; disease of the fetus or its membranes; diarrhoea; constipation; previous abortion; deformity or death of the fetus; a very fleshy or a very thin condition of the dam, and the presence of the vegetable parasite already mentioned.

In the treatment, or rather the prevention, when the affection first manifests itself in the herd, first ascertain which one or more of the above conditions exist, and then all that is to be done is to remove the cause. Cows that have aborted, when in a weak condition, should be given tonics; soft, nourishing food should be fed, and they should be removed from the herd. Several heats should be passed over before they are allowed to come in calf again.

SIR.—I have taken your paper many years and it is a most welcome visitor; it forms a most interesting part of literature in our family circle. I am pained to see so many intelligent, well-to-do farmers without it in their families.

Yours respectfully, A. F. CARPENTER.

Winona,



**Causes of Colic.**

The horse has a comparatively small stomach which is adapted to the use of concentrated food, and this should be mixed with bulky or fibrous food, says the Nat. Live Stock Journal. In a state of nature horses live upon grass and its seed, but the seed is not eaten alone. It requires bulk as well as nutriment. The bulky or fibrous food must be eaten with the concentrated, so as to separate the particles of meal and render the mass as it goes into the stomach porous. It is quite easy to see why the stomach should be in a porous or spongy condition. The gastric or digesting fluid must circulate through this mass of food in order to effect digestion. If corn be ground into fine meal and moistened it becomes very plastic, and adheres in a solid mass, almost impenetrable to any liquid. Now when a horse masticates corn meal so that he can swallow it, saliva must have saturated it, and it becomes a plastic, adhesive mass; and being in this condition in the stomach of the horse, the gastric juice cannot penetrate it, and the muscular movements of the stomach cannot break this adhesive mass so as to allow the gastric juice to circulate through it, and therefore it cannot be digested. And it is for this reason that whole corn, or that very coarsely ground, may be fed to a horse with less danger of colic or other diseases, induced by a feverish stomach, because, in the form of cracked kernels, it cannot adhere in a solid, plastic mass, and what is not digested will pass away in the droppings. But in this case of the plastic dough, the gastric juice only comes in contact with the outside, and the mass remains so long in the stomach as to create more or less fever, and cause colic or other disease.

**Fresh Air in the Horse Barn.**

The importance of supplying an abundance of fresh air for the horse barn is generally admitted, though frequently neglected. A very striking example of its importance was furnished by experiments conducted in the French cavalry service, and the results of an increased allotment of space for each horse. Previous to the change, the space allowed to each animal was 700 to 900 feet of air. Under this regulation the deaths from glanders—and this is especially deserving of attention at this time—averaged fifty-one in each one thousand head during ten years; in the same period the deaths from all diseases reached ninety-four in one thousand. The change in space referred to increased that allotted to each animal to 1,800 feet, with the result that during the next period of ten years the deaths from glanders were reduced to ten in each one thousand head; and from all diseases, from ninety-four, as above stated, down to twenty-seven in each thousand. Observation has shown similar results in the case of all live stock.—[Nat. Live-Stock Journal.]

When colts are shedding their teeth, the soft structure behind the upper front teeth will sometimes be found red and swollen. This condition, called lampas, is also found in older horses and is caused by digestive disorders. The affection may be detected by the awkward manner in which the animal takes its food, occasioned by the pain, when the tender palate may be seen projecting beyond the teeth. Feeding hard, unground grain has often had a beneficial effect; but the usual local treatment is to scarify the part with a knife or lancet, making the wound extend half an inch back from the teeth. In some instances an astringent lotion is applied. If the patient is suffering from costiveness, give a purgative.

**Correspondence.**

**NOTICE TO CORRESPONDENTS.**—1. Please write on one side of the paper only. 2. Give full name, Post Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. If an answer is specially requested by mail, a stamp must be enclosed. Unless of general interest, no questions will be answered through the ADVOCATE, as our space is very limited. 3. Do not expect anonymous communications to be noticed. 4. Matter for publication should be marked "Printers' MS." on the cover, the ends being open, in which case the postage will only be 1c per 4 ounces. 5. Non-subscribers should not expect their communications to be noticed. 6. No questions will be answered except those pertaining purely to agriculture or agricultural matters.

Correspondents wanting reliable information relating to diseases of stock must not only give the symptoms as fully as possible, but also how the animal has been fed and otherwise treated or managed. In case of suspicion of hereditary diseases, it is necessary also to state whether or not the ancestors of the affected animal have had the disease or any predisposition to it.

In asking questions relating to manures, it is necessary to describe the nature of the soil on which the intended manures are to be applied; also the nature of the crop.

*We do not hold ourselves responsible for the views of correspondents.*

**"How Should Farmers Spend their Evenings?"**—In the November Number of the ADVOCATE G. R. drew a dark and gloomy picture of farm life. Is it possible that in as fine a Province for all sorts of grain, fruits and vegetables, that the tiller of the soil has to labor from daylight till dark, with no time to improve the mind, if he wants to keep out of the Sheriff's hands? He says few farmers have either leisure or inclination for reading. It seems to me if some of us would read more useful books, and might learn to arrange everything more conveniently, thereby saving both time and labor. But who is generally to blame if farmers' families have no inclination for reading? Go to some farmers' houses and see how much reading matter they get in a year. Maybe the local newspaper, and that is all. Give the children plenty of reading—something to amuse them, and at the same time useful—make home as pleasant as possible, and I believe there would be less of our young men go to pass the evening in the tavern. Also, don't work the boys from morning till dark, and then have them doing chores around for an hour. These late hours are more of a habit than a matter of necessity, and it is no wonder some boys get tired of farm life. Get everything done up snug in good time, and farmers and their families can enjoy themselves the rest of the evening as well as their town cousins, if they could only think so. Miss Robertson, in her Essay on "How Should Farmers Spend their Evenings?" on "How Should Farmers Spend their Evenings?" said very well till describing the young farmers' manders in company and at the table. When a person, and especially a lady, undertakes to teach even farmers manners and refinement, he or she should be careful. Such language as "because he uses a shovel all day, that is no reason he should literally shovel his food into his mouth," appears more like casting a slur on the farmer than trying to teach him. I admit farmers have not the fine polish Miss Jessie noticed while visiting her town cousins. Once in a while farmers' sons and daughters catch many town airs. Whether or not they become more useful on the farm by the change I will leave others to judge.—N. M. K., Chatham, Ont.

**Cutting Fodder for Stock.**—As you are an authority on agricultural matters, I take the liberty to write, asking your opinion regarding long vs. cut fodder. What saving ought there to be by cutting, and how many feeds of very scarce hay, and being one of long? Fodder is very scarce here, and being an out-of-the-way place, is very hard to get. I will be short of hay, but have a quantity of oat straw, and was thinking of investing in a power straw-cutter, power being on hand, and mixing with ground oats. What quantity of each should be used, cut straw and ground oats? And what quantity should each animal receive? T. J. T., Cumberland Mills, Que.

[Fodders, when fed without grains, do not usually require cutting. However, if you wish to feed hay and straw, your object being to have the straw eaten up clean, it is then better to cut both and mix thoroughly. When hay is fed alone, it is not necessary to cut it, but if grains form part of the ration, it is usually better for most cattle that the former be cut and mixed with the latter. Your ration of oat straw, hay and oats would not be a paying one for fattening, but would keep the animals in good condition. The mixture would depend entirely upon

whether you wish merely to keep the stock over winter, or to fatten them. As it does not pay to keep animals without obtaining some increase, we presume you wish to fatten them. In this case the less oat straw you feed the better, and the hay must be of first-class quality, if your object is to obtain profitable results. You will find that some of your animals will eat more than others, and the same animal will have a better appetite one day than another. On an average, however, a 900-lb. animal will consume daily 18 to 20 lbs. of your hay and straw mixture, with 10 or 12 lbs. of oats. In this proportion you may feed all that the animals will eat. Cows in calf may be fed less oats, but the quantity should be increased towards calving time. If you can get bran or oil-cake at reasonable prices, it would pay you to substitute 3 or 4 pounds of it daily for the same quantity of oats, and a few roots would make an excellent substitute for a portion of the coarse food, especially for a change. Feed regularly three times per day.]

**Items from Manitoba.**—We have been favored with a beautiful season in this locality. The fore part of haying was pretty wet, but it cleared off and farmers got their hay saved in good condition. The grain was out and stacked with scarcely any rain. Threshers are now busily engaged in threshing. Grain is turning out well—wheat, 30 to 40 bushels per acre; oats, 30 to 50 bushels; barley about the same as oats. Prices are very good; 70cts. have been paid for wheat, 50 to 70 being the average; barley and oats, 20 to 30 cts. There has been a great deal of grain frozen this year, so that it is of no use; many fields have not been out at all. In our neighborhood we came off safely, no grain having been frozen. I think this is as good a part of country as is in the Province. It is favorable for all kinds of farming. There is excellent feed for cattle during summer, and plenty of hay can be cut for winter. Our land is what is known as brush land; it is slower to make a farm, but the land is the best. Nearly six years have passed away since I came to this Province. It was then a vast field of bush as far as you could see, and not a house to be seen. But now I can count hundreds of buildings from my own door. I can see the Village of Neepawa, which is about nine or ten miles away. The brush is disappearing very fast, owing to the great brush fires in the spring, so that it looks quite cheerful now, and I think in a few years we will have a fine country here. The M. & N. W. R. R. runs through our centre from Portage la Prairie to Minnedosa, and is making good headway west. From there the homestead lands are all taken up, but there is a lot of R. R. lands vacant, that make the country more thinly settled. I am sorry to say there is so much of this country so frosty, although it will be an advantage from frost. Although we are encumbered with heavy brush on our farms, we are protected from heavy frost by the Riding Mountains, running from south-west to north-east for nearly one hundred miles, which enables us to raise a first-class sample of grain. The wheat that took first prize in Minnedosa this fall is equally as good as that which took first prize at the Central Exhibition, in Ontario. That will be encouraging to emigrants to settle where good wheat can be raised, instead of going to prairie lands, but we have to pay the Government as much for our Pre-emptions as those who have prairie, which I do not think is at all fair.—J. W. B., Bridge Creek, Manitoba, Nov. 15.

[We thank our correspondent for his interesting letter, and we hope he will write to us again. We hope his remarks will stimulate farmers in other parts of the great Northwest to send us a few lines occasionally. Bear in mind that we want truthful statements on the bright and the dark side of Northwest life.]

**Fish Culture.**—In answer to numerous inquiries with reference to fish culture in Canada, we inform our readers that the Government have a large number of hatcheries about which a report has just been issued, and will be sent to any person on application to the Deputy Minister of Fisheries, Ottawa. The Government, however, have no carp fry for distribution, and in order to ascertain if such could be procured from the Fisheries Department at Washington, we wrote to Spencer F. Baird, Commissioner of Fisheries, Washington, D. C., U. S., and received the following reply:—

"As a matter of international reciprocity, and in acknowledgment of similar courtesies extended to us by foreign Governments, it has been our custom, whenever practicable, to comply with requests for either eggs or fish from individuals or societies of such countries when these are transmitted to us through official channels. In the case of our immediate neighbors, Canada and Mexico, we have heretofore been glad to comply with all requests for carp made by individuals, when such fish are desired for pond culture; and this we shall continue to do unless the applications should multiply to such an extent as to make a serious drain upon our supply. It will give me pleasure, therefore, to respond to occasional applications made by persons in Canada."

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RPENTER. Winona,

**The Colonial Exhibition—Farmers, Wake up!** Some mention is made in last month's No. of the ADVOCATE respecting the Colonial Exhibition. A little information on this head through its columns would be of service to intending exhibitors. I see by a local paper that exhibits are to be in not later than April; this seems to me to be rather an awkward time, as it is too early for fruits. I was intending to send something, even if only a small lot, but in the absence of information it seems difficult, and these questions arise: Do they go free? Whom address to? And in the event of an exhibitor going over, would he have to pay full fare, or would he get any advantage in this respect on account of being an exhibitor? I find that farmers in this section keep very close. If they would hold more frequent intercourse with each other and exchange opinions on farming operations, such a course would promote a spirit of brotherhood and smooth down some of the rough points acquired by most of us by continued isolation. The ADVOCATE has suggested as a remedy for this state of things to establish farmers' clubs in each locality, and thus by interspersing intellectual pursuits and well chosen or enlightening conversation upon the grand topics of the day, with the more rugged duties of the farm, would do much towards elevating an occupation already (as I think) too much despised, and make the noble occupation of the farmer more honorable. It seems to be too generally admitted that farmers don't require to be educated men, but I believe we want more brain manure to enable us to attain more satisfactory results. I admit there are many uneducated farmers, but they labor under many disadvantages. The time is come when it is essential for the farmer to study up and perfect himself in his business: it is quite as necessary for him to do so as the professional man, if he is to succeed. The efforts of the commercial and mechanical parts of our population are invariably crowned with success, while with a few exceptions compared with the great mass, the efforts of our farmers but just enable them to live. Is this not for want of education in agricultural principles, and the directing of their energies to the object sought? The ADVOCATE has from time to time many articles upon the most important things in farming—that is the manure heap. If we look round, how many farms do we see worn out for want of fertilizers, some only producing eight bushels of wheat to the acre? Farmers must now wake up, and where only one blade of grass grows make two stand in its place, and this is only to be done by a judicious course of manuring. The continual cropping with grain, without a due regard to the recuperation of the exhausted soil, has been carried too far. A resort to fertilizing material is really necessary, and I find we want to know more of agricultural chemistry, if we are to be really successful farmers. We are told that carbon, oxygen, hydrogen and nitrogen form the four chief elements of plant food. Out of these the farmer has to manufacture (as it were) the various forms of vegetable growth. The presence of these constituents in the soil, or the absence, has much to do in making a piece of ground fruitful or barren. I find the ADVOCATE of great assistance in my farming operations the study of which has been of great profit to me this year. I wish it all the prosperity it deserves.—W. H., St. Thomas.

[Mr. W. Saunders, of this city, President of the Ontario Fruit Growers' Association, has charge of the fruits from this Province which are to be shipped to the Colonial Exhibition. His duty is to accept all the best fruits he can procure, but, as the display is limited, he cannot undertake to tranship all the fruits that are sent to him. He is now engaged in selecting the best specimens and preserving them with certain fluids in air-tight glass jars. The exhibits will be labelled with names of the varieties and of the exhibitors. This is the only way in which fruit exhibits can go free. The regulations do not provide for special privileges to exhibitors. Mr. Saunders intends to ship about the first of February, and all parties wishing to exhibit should send him their names without delay. For general information, write to A. W. Wright, Ontario agent of the Colonial Exhibition, 6 Wellington street west, Toronto, Ont. We sympathize with you in your anxiety to improve the condition of the farmer, and we hope you will compete for our prize essay on this subject.]

**"How Should Farmers Spend their Evenings?"**—If you will kindly allow me space, I would be glad to reply to the article signed "G. R." in your November issue. I am most happy to inform "G. R." that he is entirely mistaken in his supposition that I have never lived on a farm, and as he failed to discover the fact, I must deplore my inability to truthfully and naturally depict scenes in farm life. I am a farmer's daughter, was born and brought up on a farm, and am proud that I am a country girl. My father, like "G. R.," spent the best years of his life in "reclaiming the wilderness," having taken his farm in a state of primeval nature, consequently the duties which then fell upon bare-footed, bare-headed, brown-handed, clad-in-home-spun country youngsters became mine, and with all due respect to "G. R.'s" thirty years' experience, I challenge him to a friendly contest when the potato planting season comes round, the test to be decided by the amount of work done, and the consequent effect on the liteness of our respective muscular organizations. A more congenial test, however, to me would be to allow the cows to get lost in the

back fields, and see who would be the slowest in finding them, but the readiest in making excuses as to why we—the cows and myself—were not home the sooner. It is because I am a farmer's daughter that I venture to suggest "How Farmers Should spend their Evenings." It is only because I have the most cordial sympathy with, and the highest appreciation of, the worth of country people, that I dared to comment on their lack of culture. It is because I would hasten the time when farmers can hold their own, socially and intellectually, with "men of letters, science and law," and this they never can do without attention to mental culture. He who ridicules the "hard, horny hands, awkward gait, and bent body" of a fellow-man, is merely a piece of senseless clay which, for convenience' sake, is called a man, but I think few young men of to-day are quite pardonable if they are totally regardless of mental and social culture. In the moral statistics of our country I have not the least doubt farmers bear off the palm. If "G. R." really thought, however, that the farm was not my native element, I do not blame him in the least for resenting certain unvarnished statements regarding our coming yeomen. "G. R.'s" contribution would seem to indicate that he views favorably that class of farmers alluded to in the second paragraph of "How Farmers Should Spend their Evenings," but we would read between the lines better things of him. I do not wish to be impertinent in my remarks, nor do I wish to impair the respect due to a gentleman who has been thirty years a farmer, but I do venture to say that it is not clear to me that he has proved the following statement erroneous: "It is admitted by all that, taking the annual average, farmers have more leisure than those in any other occupation." Observation proves that as a class, they have more leisure. Business men who are successful find literally no leisure in the evenings; anyone who has been "behind the scenes" in business men's offices can testify to this. Farmers possessing tolerably good farms, free from debt, enjoy a leisure, freedom and independence that doctors, lawyers, editors, merchants, mechanics, tradesmen, &c., never know.—JESSIE ROBERTSON.

[We admire Miss Robertson's pluck in challenging G. R. to a friendly contest; and we should also like to see a friendly prize essay competition, in order to ascertain which of the contending parties spent their evenings to the best advantage. We venture the opinion that if the farmers had half the culture and public spirit which Miss Robertson displays in her writings, their yokes would be easier, their happiness greater, and they would now be driving instead of being driven.]

**"What Are our Shows Coming to?"**—Now that the Fairs, from the Dominion to the Township, are over, it may be worth our while to take a glance backward and see what we have learned. That there have been great advancements made in many directions is a fact that forces itself on the attention of every one who has been attending the fairs for the past few years. The great improvement in stock of all kinds is something of which we may all be proud, although, perhaps, we are not all stockmen. In machinery the progress has been almost phenomenal. But there is one thing, Mr. Editor, that, it seems to me, is preventing our fairs from becoming, at least to a certain extent, the educators of our farmers that they should be, and that is professional showmen. By professional showmen I mean those who make it a business to go from fair to fair, and exhibit the same articles over and over. They have their stock fattened to such a degree that they are nearly or quite worthless for breeding purposes, but they expect, by attending a number of fairs, to make up in premiums what they lose in value as breeders. On the other hand, farmers who desire to use their stock for breeding will not show against them, knowing they will be beaten, unless they run the risk of ruining their stock by too high feed, which it would not pay them to do, without they take the rounds and become professionals, which they have neither time nor inclination to do. Is it not contrary to the meaning of the Agricultural Act, the spirit, if not the letter? There is a grant to the Provincial, and grants to the Electoral Division and Township Societies, and provision made in certain cases for a union of two or more; but throwing a county or township fair open to the world is not, it seems to me, the intention of the Act. Another feature of it is, supposing a stranger attend say a county fair, for the purpose of judging for himself what the capabilities of that county are, with a view, perhaps, of making it his home. He sees very fine exhibits, but upon enquiring from what part of the county they are from, he finds that they belong to some one perhaps a hundred miles away, who is taking in this particular fair in his professional round. Now, Mr. Editor, I am not an exhibitor, either professional or otherwise, but my attention has been drawn to this feature in our fairs by seeing the same exhibits at different places, until, in fact, they seem to become old friends. If my memory serves me correctly, one person remarked that he had taken between five and six hundred dollars, and was not through yet. Whether there is a remedy for it or not I do not know, but I certainly think there should be, and that it should be applied. SANDIE, Victoria, Ont.

**Controlling Sex of Offspring**—Professor Turner, of the Institute of Agriculture, South Kensington, London, S. W., writes us saying that he would be pleased to receive from us or from any reader of the ADVOCATE a statement of any facts bearing upon "the conditions and circumstances which influence the sex of the offspring." There is to be a conference of the Institute of Agriculture in Lon-

don (England) in December, and any communicated facts will be welcomed and embodied in their report on the subject.

[Many of our readers have informed us that they have tried various receipts for influencing the sex of offspring, but nothing is spoken of as being satisfactory. Those of our readers who have any knowledge or experience in the matter would oblige us, as well as the distinguished Professor, by writing to him without delay.]

**Leveling Implement.**—In answer to W. E. L. of Dundas, who asks for an implement for leveling ground, I will give him a description of one which I use: Take three pieces of oak scantling 3x4, and five feet long; lay them on the ground five feet apart; then take two pieces 12 feet long, 2x6, and lay on the ends and pin or bolt them fast; then take a piece 2x10, 12 feet long and bolt across the centre of them, and your level is done; fasten the chain for drawing at the corners to the 2x6, and ride on the front end.—J. H. M., Beamsville, Ont.

**How to Construct a Self-Cleaning Cistern.**—In the October number of the ADVOCATE I notice an article on "The Value of Cisterns—How to Make a Cheap One." The concluding sentence reads as follows: "For household purposes the cistern should be cleaned out once a year, but when the water is used for stock there will be no danger in leaving it untouched for several years." A good plan in building a cistern is to run the overflow pipe from the centre of the bottom (all cisterns should be basin-shaped in the bottom), to the wall, up the wall and out at the top. By this means, every time cistern is filled with water, the waste pipe being in operation at the bottom, draws all sediment into it and thus automatically cleanses the cistern.—S. M., Hamilton, Ont.

**Painting Roofs.**—We prize the FARMER'S ADVOCATE above all other papers, and would not like to be without it. Enclosed please find \$2.00 and two new subscribers, and will send more if I can get them. I would like to hear something from you about the benefit of having the roofs of buildings painted; some claim that they do not last any longer by being painted. The railway building here is all painted except the roof.—T. A., Allenford, Ont.

[Painting will add very little to the durability of roofs unless a fresh coat is given every four or five years. On houses, where durability is required, slate is now extensively used. It does not usually cost more than double the price of shingle roofs.]

**Prince Edward Island Heard From.**—In your last issue I noticed some notes from Manitoba regarding agricultural matters in that country sent by a subscriber to your paper. Would you kindly insert the following brief notes regarding this part of the Dominion. We have been favoured with a splendid sea-on; the oldest inhabitants say they cannot remember a finer summer and autumn. There were no early frosts, and very few nights with frost up to date. The hay crop, which was above the average (some farmers having 3½ tons to the acre), was saved in splendid condition. There was also an abundant harvest this year in all parts of the Island; one farmer claims having threshed 125 bushels clean wheat, from 6 bushels on 3½ acres of land, being a yield of nearly 21 bush. to one sown, or 3½ bush. to the acre, while many farmers have from 15 to 18 bush. to one sown. The yield of potatoes was excellent, while the yield of turnips has never been surpassed. One farmer has on exhibition a turnip weighing 27 lbs., and another farmer has one 24½ lbs., while many farmers have turnips from 15 to 20 lbs. in weight. The prices of all kinds of produce are exceedingly low. Oats are selling at 30c. per bushel; potatoes at 14c., and turnips at 13c. per bushel; beef and pork are selling at c. per pound; fresh butter sells at 22c. per pound. Farmers are nearly all done their ploughing and other fall work, and are preparing for the coming winter. Wish you paper every success. I remain, W. C. North Wilshire, P. E. I.

[We are thankful to the above correspondent for his interesting letter. We do not pay for contributions which appear in the CORRESPONDENCE department of our columns, but we have recently opened a special book in which we write the names and addresses of those who favor us with occasional letters, although we have not yet decided in what way they will be rewarded.]

**Fish Culture.**—I see a piece in the correspondent's column headed "Fish Culture," written by W. B. of Pittsburg, Pa., U. S. A. Now what I would like to know is if there are any Gurnian carp in the Dominion, and if so, can I get some, and if not will you give me W. B.'s name so that I can communicate with him? And if I should get any of him, can I get them through the Custom House?—J. H. M., Beamsville, Ont.

[The name is W. Baird, who no doubt will give you all the information you require. Read letter from Commissioner of Fisheries, Washington under the heading of "Fish Culture." The tariff list makes no mention of a duty imposed on eggs or fry, but they would unquestionably come in free, as having no marketable value, or as a means of improving our stock. We see no reason why every farmer who has a pond should not send to Washington for a supply; it will cost nothing, and the experiment would be worth trying. Those who embark in the business would greatly oblige by sending us the result of their experience.]

The Household.

Lung Gymnastics—How to Breathe.

Probably some of our patients would be quite surprised if we were to tell them that very many healthy people do not habitually use all their lungs in the act of respiration. Yet this is undoubtedly the case, especially in regard to persons engaged in sedentary pursuits. Some of these individuals may be "too lazy to breathe"—though not entirely conscious of the fact. Perhaps it would be more correct to say that they are "too careless to breathe," or that they never comprehend the full importance of the function. Dr. J. H. Tyndall has well said: "The importance of knowing how to breathe cannot be overestimated. No line of treatment [of lung diseases] at home or by change of climate should be inaugurated without instruction in lung gymnastics, in the mechanism of breathing. Until you have paid close attention to the subject for a number of years you will never know how many human beings do not know how to breathe, and through which organ to breathe. Respiration, this most important of all functions of life, is by some carried on superficially, by others pervertedly and contrary to physiological requirements."

"Breathing is a function which should be exercised slowly and profoundly; a requirement which can only be fulfilled by breathing through the nose. Breathing through the mouth leads to superficial and often rapid breathing; still oftener to snapping off the air."

We are often called on to prescribe or give advice for patients of sedentary habits—as bookkeepers, clerks, students, and women in general—who complain of pain in the upper half of the chest, or at least of a very uncomfortable feeling of oppression referred to that region. They are often afraid that consumption is threatening them, or that their lungs are already rendered partially useless by the disease. In such cases we may frequently notice a marked expression of languor, or some degree of melancholy, with sallowness of the skin. There is also, perhaps, soreness of breast or lungs, a little cough, dyspnoea on exercise, lassitude, speedy exhaustion, rapid pulse on slight exertion, constipation, mental dullness, etc.

The proper remedy, or at least a most valuable adjunct in all such cases, is forced respiration. Let the patient be instructed at once how to breathe so as to inflate his lungs to their utmost capacity, and let him practice these forced inspirations and expirations from four to six times every day, for ten or fifteen minutes at a time, and with proper attention to diet and regimen, he will soon feel like a new man.

Tyndall says, "lung gymnastics proper should be carried on in the open air, while at work if possible, or while walking or standing still, or in a well-ventilated room. The exact limits to which actual gymnastics should be carried on at home or in a gymnasium often tax the best judgment of the physician. Nearly all performances require more or less severe straining of the pectoral muscles, and sudden calls upon the heart for increased action."

"While walking, the patient should as frequently as possible (say every ten or fifteen minutes) take deep inspirations and expirations without straining, from six to eight times in

succession; which act completely empties and refills the lungs."

The point so strongly emphasized above, that breathing can only be properly performed through the nose, is one upon which we desire to lay special stress in this connection. We remember a little book, written many years ago by George Catlin, a celebrated artist and traveller among our Indian tribes, in which this subject was treated in a quaint and forcible manner which made considerable impression on us at the time, and we have often wished that the brochure could be republished and widely circulated. Savages almost everywhere, according to this author, practice nasal respiration exclusively, being forced to do so by their mothers in early infancy; and civilized parents, he thinks, should train up their offspring in the same way. In this we have no doubt he is perfectly correct. As it is, almost everybody sleeps with his or her mouth wide open, for want of a proper education in the matter. If such education could be universally imparted, a first step would be taken towards reducing the present dreadful fatality from consumption—besides diminishing the liability to contagious diseases, and abolishing the nuisance of snoring.—[M. R. in New York Medical Times.

Family Circle.

TWO WINTER NIGHTS.

BY THE AUTHOR OF "THE LATIMERS," "BRIAN DESMOND," ETC., ETC.

PART I.

"What's o'clock, Loro?"  
"Three minutes past the hour."  
The answer was given with a suspicious promptitude. Loro had not far to look. His watch was in his hand.

The elder man glanced at him sharply, then he uttered a short, impatient sigh.  
"Then we will order up dinner, Loro," he said, with an assumed indifference. "Winnie has no doubt changed her mind; she will not come to-night."

A smile passed over Loro's handsome young face—a little smile all to himself creeping up at the corners of his mouth, and spreading unseen into dark eyes that were half-veiled by drooping lashes as they gazed dreamily into the red depths of the wood fire.

"Oh, yes, she will come," he repeated softly below his breath; "she will not change her mind—she will come."

Once again Mr. Barnardine flashed that swift searching glance, half of resentment, half of perplexity, at his companion. There was no light in the long oak-pannelled hall, only the glow of the firelight that flickered over the dark walls, the family pictures, and the crimson drapery across the windows, shining redly on the faces of the two men who sat one on either side of the wide open hearth with its heavy iron dogs and its blazing pine-logs.

The two were in the most correct of evening-dress; irreproachable white ties, snowy shirt-fronts, with a gleam of jewelled studs that sparkled in the firelight. The younger man in addition wore a white frock coat, and a flower in his buttonhole. It was evident that guests were expected.

From their relative ages they might have been father and son, for Mr. Barnardine was forty-eight, and Loro was twenty-four; but not the most cursory observer could have looked at them twice and have fallen into the error of supposing them to be so. No two men could be more utterly and totally dissimilar. True that both were tall and slightly built, similar. True that both were erect of carriage, English squire was Barnardine's erect of carriage, a strong of limb, with a fair complexion stained to a ruddy hue by winds and weather, with a blue eye keen as a hawk, and Saxon fair hair and beard in which here and there a streak of grey was as yet but sparsely sown.

But as for Loro, Loro was different: there was no Saxon blood in his veins, no Saxon vigour in his long, well-shaped limbs; the rich brown of his clear tan skin, the dreamy depths of his large, soft eyes, the very grace and languor of his attitudes told of his southern birth, of a nature that was as distinctly Italian's sun is to England's fogs, for Lorenzo Fal-risi is a Genoese, and no sonship binds him to his companion save that of adoption and of affection. The

story of their connection is briefly told. One day, now many years ago, a brown-faced, curly-haired urchin was playing out in the sun with others of his kind at the corner of the street; they lay like Murillo's beggar-boys, stretched across the hot pavement of the road, chattering, quarrelling, gesticulating all at once, as they tossed up little white pieces of bone on the backs of their brown little hands, catching them again as they fell. Loro lay with his bare legs waving in the air, his rough head, garnished with a scarlet fisher-cap, bent downwards, his eyes gleaming eagerly and fiercely as he quarrelled with his fellows. There was no one to shout out to him, or to warn him, as the Englishman's phaeton swept rapidly round the corner with the high-stepping bay horses he had brought out from home. One jolt, one scream, one scuffle of terrified horror as the picturesque little group of gamblers scattered in all directions like a flock of frightened pigeons; all but poor Loro, who lay there groaning and helpless, for the wheels of the Englishman's carriage had gone over one of his little brown legs. And then the child fainted, and John Barnardine took him up in his carriage and drove him to the hospital, where the broken limb was set, and where he was carefully nursed and polished; his composition in Greek and Latin, and his Latin verses were the delight of his tutors. Loro won a scholarship at Eton, and passed first-class at Oxford. But as for cricket and football, for rackets and rowing, they were as nothingness to him. His indolent Italian blood stood between him and all exercises of strength and activity. He never could see sense or reason in any of them. His tongue accustomed itself soon to the language of his adopted country; but never could his lissome limbs accept the hardening processes of that country's national sports.

"Why should I tire myself out and make myself hot in the sun?" Loro would say, with a mild up-lifting of his handsome eyebrows when remonstrated with upon his indifference to these things. "It is pleasanter to me to lie still in the shade; why should I play at these games if I don't like them in my own way."

And so Loro grew to manhood in his own way, quick of brain, deft of finger, and beautiful of face as a god; but as little like the ordinary shooting, hunting, sport-loving young Englishman of the day as it is possible to imagine. Nevertheless John Barnardine loved him, and Loro loved his benefactor. Different as were their tastes, utterly opposed as were their natures, nothing could serve to weaken the strong cords of affection which bound them to each other, until one day a small personage, called Winnie Damer, entered all at once into the life of the two men who had hitherto lived out their bachelor existence undisturbed at Quarter Court, in the county of Middlesex.

It was Winnie Damer and her mother whom Mr. Barnardine expected to dinner to-night. I say "expected" advisedly, for expectations, we are told, are doomed to be unrealized, and where Winnie was concerned it was never safe to be confident concerning things. If Winnie said she was coming to dine with you, the odds were generally that she did not come, whereas if she vouchsafed no foretokens of her arrival she would frequently burst upon you un-awares like an unlooked-for dash of sunshine on a stormy day.

Winnie was a person whom nobody thought of judging by the standard of ordinary mortals. She was here to-day and gone to-morrow; she made promises at night and broke them all in the morning; often she said "yes" when she meant "no," and sometimes even she said "yes" when she was quite certain that she intended to act up to "no." She was a creature of impulse, changeable, uncertain in her moods, undependable, and irrational in her actions; sometimes Winnie wept, and sometimes she laughed; but with it all, always—always she was charming.

"She will not come," repeated John Barnardine, who knew her well, and then he got up with a sinking heart and rang the bell for dinner. But Loro smiled to himself still, and murmured once more: "Oh, yes, she will come—she will come."

A dignified butler flung open some wide double doors at the end of the hall in answer to his master's summons, and lo! there appeared, as in the magic chamber of some enchanted castle, a round table laid with a snowy cloth, and with a lighted lamp upon it. The table glided in on noiseless castors across the polished oak floor, propelled softly into its place by an attendant from behind.

The table was laid for four, and was pushed up to the wide fireplace. Barnardine drew his armchair a little forward into its place, and motioned to his adopted son to do the same, that was how they dined, these two, in their luxurious bachelor life.

But Loro did not move.

"Give her five minutes more?" he pleaded. Barnardine frowned slightly.

"Not one: it is twenty minutes late as it is. She will not come, I tell you. It is snowing. She does not like the cold. Do not I know Winnie better than you do?"

If Loro had his doubts concerning the last assertion he did not give utterance to them. He drew in his chair to the table, and Mr. Barnardine helped him to soup.

Suddenly there came a dashing up of wheels, a loud peel at the bell, a clamorous barking of all the dogs, great and small, that lay behind the crimson curtains in the outer hall, and Mrs. and Miss Damer hurried rapidly in, with a great gust of cold air from the winter world without. I should probably have said Miss and Mrs., for Winnie came first. Snowflakes besprinkled her fur cloak, and lay like wet stars upon her sunny hair; her eyes shone, her cheeks were all aglow; she came flying in across the wide hall towards the little dinner settlement by the fire, unfastening her cloak as she came.

"Ah! you did not wait for me, Mr. Barnardine; you did not think I should come? Did I not tell you I would be here? Ah, what a funny thing it is that no one will ever go by what I say!"

Mr. Barnardine was apologizing profusely.

"Oh, of course I know I am very late," she continued, as she sank down into her place; and Mrs. Damer, a thin and very meek-looking old lady, with a black front and a red velvet gown, took the other vacant place opposite her daughter; "but, then, I am always late—that is nothing new for me, is it, mamma?"

"Nothing, my dear."

"And what with the scramble I had to get dressed, and the sily condition of the roads, and the horses going along like snails, oh, it's a wonder that I am here at all! I am not at all surprised, Mr. Barnardine, that you should have given me up; but you," she added, suddenly pausing, with her spoon half way to her mouth, and looking suddenly round with a strange, swift earnestness in her face and voice, "you might have believed in me a little longer, Loro!"

As he met her eyes there passed between the two one of those electric flashes of comprehension by which eyes are made to speak when tongues are forced either to be silent or to cloak themselves with meaningless phrases.

Winnie's blue eyes said as plainly as they could say it:

"You had no business to doubt me."

And Loro's dark, slumberous ones flashed as swiftly back:

"I did not doubt you, darling."

"Nevertheless," continued Winnie, no longer with her eyes, but with her voice, and yet in a sort of context to the answer which she had received, "nevertheless you had begun your soup!"

John Barnardine looked from one to the other sharply. Loro became instantly swallowed up in an absorbing conversation concerning the origin, causes, and effects of rheumatic affections with Mrs. Damer, and Winnie nodded at him with her audacious smile across her spoon.

"Oh, you needn't look so cross at me, Mr. Barnardine, because my temper is just as sweet as honey to-night; you couldn't make me angry, you know, if you had left me no dinner at all. You know it takes two to quarrel, and if I won't be one I don't see how anybody else can be the other!" and so she rattled on, gaily, heedlessly, in her own fascinating little way, that meant not so much what she said as did the pretty by-play of sweet looks and quaint, swift gestures, which, somehow, always reduced the men about her into poor silly moths that fluttered about her brightness.

"Could anybody quarrel with you, Winnie?" murmured Barnardine, bending low towards her, so that Winnie had time to remark that the little bald patch on the summit of his head was yet a little wider than it had been before. "Did you get my letter, dear?" he added, almost in a whisper.

"Yes and no," replied Winnie, not at all lowering her voice; "yes, because the postman brought it; no, because it lies unopened in my pocket now. I really had not time to read it. Shall I look at it now?" with an innocent gesture towards the folds of her dress.

"Ah, for Heaven's sake!" cried poor John, desperately, turning suddenly pale as he put forth his hand to stop her. And Winnie laughed her mischievous little laugh at his horror-stricken face.

And Mrs. Damer opposite was in full swing, Loro listening attentively.

"What you must take, Loro, is two yards of good thick Welsh flannel—I've tried Saxony, but it's of no use, there's no substance in it, though it's softer to the skin—and you fold it in three like this, illustrating upon her table-napkin, "then you soak it well in the mixture and lay it on."

"Ah! I thought you were to drink that mixture hot?"

"No, no; it's the camphorated spirit you are to drink—cold, mind—quite cold! What I am speaking of is the liniment; it's a family recipe, quite invaluable, I assure you. My grandfather swore by it; my aunt, another victim to rheumatism, used it constantly; I myself always sleep with it by my bedside."

"And Winnie?" interpolated Loro, softly. "Does Winnie, too?"

Winnie, who had ears all round, caught the sound of her name and laughed.

"Oh, I put my kitten bodily into the family mixture last week after Rover had bitten her, and I assure you she has never mewed since, except to offer up thanks to the inventor!"

After dinner, when the table had been noiselessly removed, Loro sat at the organ at the far-end of the hall, and sang the songs of his native land in his rich tenor voice. Here he was truly great; the full clear notes echoed in a flood of passionate beauty across the wide chamber. It was a glorious thing to hear Loro sing when he sang as he did to-night, out of his very heart, to the idol that his heart worshipped.

Winnie crept up, and sat behind him in the dim light; she was Winnie no longer, but a tamed, softened creature, with a hushed voice and tears in her eyes.

Presently he ceased to sing, although his hands wandered still in grand, full chords over the keys; then he leant back his dark head, and gazed into her face with all his passionate love in his eyes.

"Winnie," he whispered, blindly, "tell me that you love me, darling."

Winnie was herself again, and she smiled back at him her wicked little mocking smile.

"Ah, yes, Loro. Can anybody help loving you when you are playing like that?"

And Loro was fain to be satisfied.

Later on, John Barnardine stood beside her at the open doorway, wrapping her fur cloak about her slender little figure.

"Winnie, won't you give me my answer to-night—the answer to my letter, you know? You guess what it is, I am sure; it is to ask you to be my wife. I do not think I can be mistaken in believing that of late you have returned my affection; tell me that you will marry me."

And Winnie looked out over the snow-sprinkled earth all lit up with dazzling splendour of the moon, and she saw the great avenue of trees in the wide park, each with its sombre shadow glittering in the white light; and she glanced back to the rich luxury of the hall behind her, with its pictures, and its old oak, and its tapestry; and some evil spirit within her whispered to her that Quarter Court was a fine place, and its master a rich man, and that it would be better to be mistress of Quarter Court than even to bask for ever in the love-glances of Loro's beautiful eyes.

"Loro," said John Barnardine to his adopted son when the guests had gone and the doors were shut again—"Loro, it is from your voice that I must have my first wishes of joy. Winnie Damer has promised to-night to be my wife."

A dead silence. The little Neapolitan song that hovered upon Loro's lips died away. Something else, too, died away—something that life never gives back again—the first boundless trust and faith of a man's young heart! One sharp pain of actual physical agony—one frantic, maddening effort to stifle every sign and to be still—then Loro reached forth his hands and grasped Barnardine's tightly in his.

"My father—my more than father—I wish you joy!" he said, simply. And so the winter night ended.

PART II.

Another winter night. It is a month later, yet still the iron hand of the frost holds the earth fast in its grip. There is no snow to-night, only hard roads along which the horses' footsteps ring out sharp and clear, and a deep black vault sown with myriads of shining stars overhead.

Outside Quarter Court there is a great crowd of horses and carriages, and a gleam of many lights and lanterns. Within there is the sound of music and dancing, for Mr. John Barnardine is giving a ball to-night, and the old oak-panelled hall is crowded with gay dresses and bright faces.

Winnie has insisted upon it. To-morrow is her wedding-day, and she is to be spirited away to Paris; but to-night she has declared that she will dance out the hours of her last maiden-day and dance in the dawn of her marriage morn. It is like Winnie, everybody says; she is so original, so headstrong, so unlike everybody else! Where other girls would seek the solitude of their own chamber to spend those last few hours in prayer, perchance in tears, Winnie likes best to be in a giddy crowd in a glittering ball-dress, floating round the room with glowing cheeks and glistening eyes, with the lights of a hundred candles reflecting themselves on the diamonds which are her bridegroom's wedding-gift, and which glitter round her long fair neck like a chain of living fire.

And at midnight I will go home," she had said.

"Like Cinderella! the fairy-tale, I shall vanish into the darkness; but I must dance on my wedding-day, you know."

And so she had her way—Winnie always had her way; the only difficulty she ever experienced was in clearly herself apprehending where that way might lead her wandering fancies, and what she herself desired to do.

Was there some ulterior motive in the very background of her mind to-night?—some motive to which she will not give a name even in her innermost heart, and yet which has given rise to this strange and almost unnatural fancy of hers concerning this ball which her bridegroom has given her, sorely, we may be sure, against his own inclinations?

Winnie is dancing with Loro; his arm is about her waist, his hand locked fast in hers, his dark head within a few inches of her golden locks, as they glide round together in that perfect harmony of time and step which makes waltzing an ecstasy of delight to two persons who really waltz well; his eyes drink in the beauty of hers with a dangerous delight, and his voice murmurs ever and anon little broken words into her ear.

"It is the last time, the very last, Winnie! I shall never waltz with you again."

"Who knows," she whispers back; "never is a horrid word, Loro; and you don't suppose that I am going to leave off waltzing, do you, because I am married?"

"Oh! but I shall not be here to see you."

"What nonsense! John says you are to live here with us just the same, and I say it too."

"Ah, Winnie, I had better not," he answers, with

a sigh, and he knows that he has settled to go away this very night from her for ever, for a man can stand a certain amount of suffering, but after that there comes a limit which he can endure no longer; and Loro has made up his mind that sooner than go mad with the sight of John Barnardine's happiness, and sooner than betray his benefactor by loving that benefactor's wife over-much, he will turn his back for ever upon his adopted country and home, and go back to his own land and begin life afresh there for himself. He has spoken no word of this intention, only he has made his preparations. These are easy enough, because, owing to the filling of the house for the ball and the subsequent wedding, he has gone to take up his abode at the farm just outside the park gates, and here he has collected his belongings, and ordered the dog cart that is to take him away to the station, to come for him. And then he has written two letters, one at great length to Mr. Barnardine, and one very short one to Winnie—the former he has left with the valet to give to his master in the morning, the latter he now contrives to slip into the very middle of Winnie's bouquet.

When the waltz is over he takes her to a seat and stands for a few moments before her speechless, looking at her strangely with all the agony of a man who knows he is looking his last upon that which he loves best on earth.

Winnie's heart goes a little faster perhaps for that yearning gaze, for that oddly white face that looks down upon her so silently.

"Well," she says, lightly, more lightly than she feels, "and what do you see to stare at, Loro?"

"Am I not right to look, when you go away to-morrow?"

"Only a fortnight to Paris; and John will want to get back to his home when the frost breaks and the hunting begins again. I shouldn't wonder if we are back sooner. I shall get very tired of living in a hotel with nobody to amuse me," and she makes a little petulant face like a spoiled child; "besides, you will see me to-morrow morning."

"I think not," he answers softly. "Winnie, when the next waltz is over—not before—read that little scrap of paper I have stuck into your bouquet—there under the white stephanotis-flower, do you see?—and then you will forgive me for wishing you now good night. Good-bye, and Heaven bless you always, dear. See, here is your partner."

A cousin of John Barnardine's came forward to claim her. Winnie felt a little frightened, a little bewildered, she could not quite understand what he meant; but her partner passed on, and she swung her quickly off amongst the crowd of dancers; and when she tried to look back to the corner of the room where she had been sitting she could not see Loro's dark handsome face any longer—he was gone!

"\* \* \* \* \*

"Might I speak to you, sir, for a moment?" It was Peter Symes, Mr. Barnardine's valet, who thus mysteriously addressed his master some twenty minutes later, catching him in an angle of the long passage that led from the billiard room, where Symes was already in full swing. Symes was a confidant and privileged person, and since the days when his master's service ever since the days when his master had picked up little Loro Faleri's mangled frame, "out of the very gutter," as he expressed it, in order to set him up in high places. It was not in Symes' place to speak his mind upon that event; but Mr. Barnardine knew very well that Symes had never approved of it, and he was also pretty well aware that his marriage with so young and lovely a maiden as Winnie Damer met with no approval in the eyes of his old servant. When he met Symes' eyes, grave and troubled, fixed anxiously upon him as he proffered his request, Barnardine knew that whether it were agreeable to him or not, he must perforce give attention to what he had to say to him.

"Would you mind stepping in here a moment, sir?" He opened the door of a small room which was not in use to-night, and ushered his master into it.

"Well, what is it? Be quick, Symes, as I ought to be back in the supper-room."

"Sir, I sadly fear as how things is not going right to-night," began the old man seriously.

"Not going right! Why, Symes, everything surely is going off capitally; and everybody enjoying themselves. I hope none of the men are drunk, or that there is anything disagreeable going on amongst the servants, is there?"

"No, no, sir. Do you think I would have troubled you about any little thing of that kind at such a time? No, sir, it's more serious, I fear. Mr. Loro—"

John Barnardine looked uneasy at once.

"Mr. Loro! Why, he was here not ten minutes ago; I saw him dancing myself. No, I come to think of it, though, it must be nearly half an hour ago that I saw him. Where is he—is he ill?" He made as though he would turn to the door, but Symes stopped him.

"No, sir, he's not ill as I know of; but he has gone away, I think. Sir, he gave me a letter that I was to give you to-morrow morning, but I think it my bounden duty, owing to things which I have seen myself, to give it to you at once!" and Symes drew a letter out of his pocket.

John Barnardine cast his eyes hurriedly over the closely-written sheets.

"What is the meaning of this?" he muttered. "Going away—cannot wait for my wedding—must go at once—for ever—back to Italy—uncyning grating—will never forget me! Why, bless my soul! the suddenly crushing up the letter in his hand, "the boy must be mad! What on earth does he want to go away for before my marriage? He must be stopped, Symes. Why, I wouldn't part with him not for fifty wives; I love him like my own son



If the bag is intended for music, slip two sheets of cardboard in the size of the bag and the music will remain straight.

**Fig. 2.**—A receptacle for soiled linen. Take an ordinary flour barrel, line it with paper muslin, and on the outside cover it with cretonne, laid in box pleats. Around the top finish with a lambrequin made of turkey red, with cretonne flowers transferred on the centre of each point. Cover the lid with cretonne inside and out, and put a full pleating of the same around the edge. For the handle on top, use an iron trunk-handle. The tassels on the lambrequin are made of worsteds corresponding with the colors in the cretonne. By having the handle off the top, and having the lid made large enough to fit over, instead of the ordinary way, the barrel can stand in a room and be used for a table.

**AFGAN FOR BABY CARRIAGE.**—This is a pretty and simple pattern for making an Afgan or couvrette for a baby carriage, or it may be used for a cover for a child's cradle. It is worked with Saxony wool in alternate squares of white and blue; other colors may of course be chosen to suit individual taste. The stitch is crochet tricotee, or what is commonly called "Afgan stitch." Make a chain of 14 stitches with white Saxony wool, making 13 loops of tricotee; work on it 13 rows of white; then take the blue wool and continue working 13 rows; then take the white again, working thus in alternate squares until the required length is reached. The next stripe begins with the blue wool and is worked in alternate squares in the same way. The stripes are joined together by a row of chain stitch in either white or blue; a white square must always be next to the blue ones, and *vice versa*. In the centre of each square may be embroidered in blue or gold silk any pretty flower or figure the worker likes. The couvrette is to be finished with a fringe which is crocheted thus:—*1st row*—With white wool 1 sc. (single crochet), 7 chain, miss 2 loops, 1 sc. on the next loop, repeat from all round. *2nd row*—1 sc. on the 4th loop of the first 7 ch., 7 chain, 1 sc. on the 4th of the next 7 ch. of the preceding row; continue all round; this row is worked with blue wool. Next cut the two wools in lengths of 9 inches, and loop 6 strands into the centre of each 7 ch. of the 2nd row, pulling the blue and white in alternate chains. Saxony wool is excellent for Afgans, as it washes well, especially if bran is used instead of soap.

**PIN CUSHION.**—This is made on a cardboard box which should measure about eight inches in length and three and a half in width. It may be covered with brocade velvet, satin or fancy silk, with a silken cord run around or finished with a frill of lace.

**KNITTED SILK SUSPENDERS.**—A nice gift for a gentleman. The simplest ones are knitted like a stocking and used double. Cast on thirty stitches, ten on each needle, and knit perfectly plain until of sufficient length. Another way is to knit them like a garter, in some fancy stitch. In this case the silk is used double and the fabric is single.—[Dorcas Mag.]

**PALETTE AND BANNER.**—Ladies who can neither use a painter's brush nor embroider, can cover a large wooden palette neatly with red plush or satin, and tack one or two peacock feathers across it. Fasten to the wall with a bow of light blue satin ribbon tied in the

thumb hole. This is a very pretty decoration for the wall. A banner can be made with a centre piece of gray linen, or better still, of brown aida canvas, with a band above and below it, of red or peacock blue plush. Diagonally across the canvas put a strip of ribbon richly brocaded in floral pattern. Line the banner with stiff muslin, and suspend it by a silk cord the color of the plush. Fringe of the same color, or of a mixed variety to correspond with the diagonal ribbon bar, may be added.

**BABY BOOTS.**—These little boots are very pretty knit of blue or pink and white zephyr. They are commenced in the middle of the sole,

until you have knit seventeen rows, and have thirty-nine stitches.

18. Seam three, knit three, seam three, knit three. Pay no attention to the rest of the stitches.

19. Knit three, seam three, knit three, seam three.

Knit these twelve stitches back and forth, without increasing, twenty-six times, or through the forty-third row.

44. Knit three, seam three, knit three, seam three, cast on the right hand needle twenty-seven stitches.

45. Take a third needle, \* knit three, seam three, repeat from \* across the needle, narrow the last two stitches.

46. Seam two, \* knit three, seam three, repeat from \* across the needle.

Knit in this way seventeen rows, narrowing at the end of every odd row. There will then be thirty stitches on the needle. Bind off. You will now have the slipper part of the boot completed.

With the white wool knit across the needle that is left in the work, beginning at the heel, knit three, seam three, etc. With the same needle pick up seventeen stitches across the instep, and twenty-seven stitches on the other side.

1. Seam forty-three, seam two together. Do not knit the rest of the stitches.

2. Narrow, narrow, narrow, \* thread over, knit one \* five times, thread over, narrow, narrow, narrow, three stitches together, turn the work.

3. Knit plain sixteen stitches, narrow.  
4. Knit plain sixteen stitches, narrow.  
5. Seam sixteen, seam two together.  
6, 10, 14, and 18. Same as second row.  
7, 11, 15, and 19. Same as third row.  
8, 12, 16, and 20. Same as fourth row.  
9, 13 and 17. Same as fifth row.

21. Seam thirty-four. In this row and each row following, there will be fifty-one stitches.

22. Narrow three times, \* thread over, until one, \* five times, thread over, narrow, narrow, five times more, \* thread over, knit one, \* five times, thread over, narrow, narrow, five times more, \* thread over, knit one, \* five times, thread over, narrow, narrow, narrow.

23 and 24. Knit plain.  
25. Seam.

Repeat the twenty-second, twenty-third, twenty-fourth, and twenty-fifth rows ten times, then bind off.

The ninth and tenth times that you knit the twenty-second and twenty-third rows use the colored wool.

Join the boot on the wrong side, in such a way as to make the toe square. Run a narrow white ribbon around the lower row of shells in the ankle, and tie in a bow in front.

#### Answers to Inquirers.

**CARRIE KELLY.**—We are unable to give you any information on the matter, but will insert your question under "Queries."

**YOUNG HOUSEKEEPER.**—1. The following is a good recipe for "Tomato Catsup":—Take one peck of tomatoes, quarter of a pound of pepper, quarter of a pound of allspice, quarter of a pound of white mustard seed, two ounces of cloves, six tablespoonsful of salt, half a gallon of vinegar; boil slowly six hours, cool, and then bottle. 2.—To make beef or mutton gravy—After the roast is done, pour *nearly all* the fat out of the pan, then pour in a little boiling water; if there was not enough after pouring off the fat, wet up some flour with a little cold water till the lumps are out, then

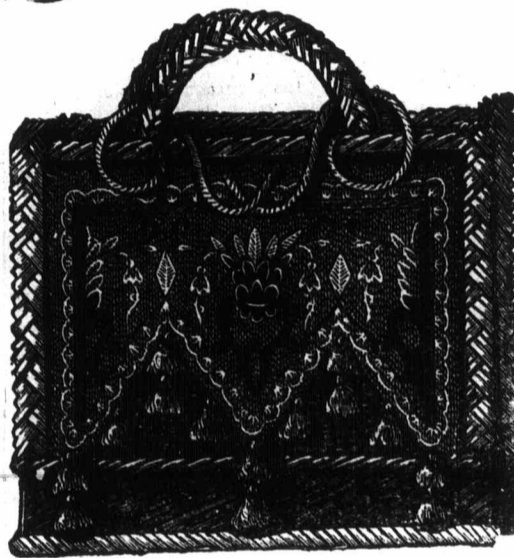


FIG. 1

and a tiny slipper is knit basket work with the colored wool. The instep and upper part of the boot is then knit shell work with white wool. The following directions are correct, and I hope no one will have any difficulty in following them.

Cast on thirty stitches.

1. \* Knit three, seam three, repeat from \* across the needle, widen one at the end of the needle.

2. Seam one, \* knit three, seam three, repeat from \* across the needle.



FIG. 2.

3. \* Seam three, knit three, repeat from \* across the needle, widen one.

4. Knit two, \* seam three, knit three, repeat from \* across the needle.

Continue in this way, knitting two rows to look alike, then change, seaming what was plain, and knitting plain what was seamed, making one stitch at the end of each odd row,

make thin and pour into your pan on top of the stove; boil a few minutes, stirring the whole to prevent sticking. Season to taste. Never dredge the flour into gravies, as it is sure to lump—strain all gravies.

ANNA wishes to know first how to cook salt pork besides boiling and frying. Any of the following are very nice:—Broil on a wire grid-iron, turning often; shake flour over it while cooking. This should be served on a very hot dish and eaten as quickly as possible. Another—Fry nicely, then take each piece out on a fork and dip in a batter made of an egg and a little flour, then return to the pan long enough to cook the batter. Sour apples cut in slices and fried until tender and brown on both sides, are very nice served on fried salt pork. Salt pork is greatly improved by soaking it in milk two or three hours before cooking. Your other questions will be given under "Queries."

SUBSCRIBER.—1. Your question will appear under "Queries." 2. Lemon and orange peel may be candied as follows: Cut the fruit in halves, take out the pulp, put the peel in strong salt and spring water to soak for three days. Repeat this three times, then put them on a sieve to dry; boil it and skim until quite clear; let the peels simmer until quite transparent; dry them before the fire; take loaf sugar with just sufficient water to dissolve it; whilst the sugar is boiling put in the peels, stirring continually until all the sugar is candied round them; then put to dry either before the fire or in an oven, and when perfectly dry put them past for use. Candied citron is first preserved, then dipped in sugar that has been boiled to candy thickness, then dry it. Preserved water-melon—the hard part next the skin makes a very good substitute for the candied citron bought in stores; preserve with sugar, equal weights; cook syrup down rather more than for common use, thus causing it to granulate; then dry.

Queries.

A SUBSCRIBER wishes to know how to make "Brick Cheese." Can any of our readers give information?

ANNA would be glad if any of our readers could tell her the composer's name, and where to procure the song entitled "Belle Brandon." Also—where a book with instruction for the "Improved French Dress cutting System" can be procured.

CARRIE KELLY desires to know what will cleanse lard that has the odor and taste of goose-grease; she cannot account for it and has tried cleansing with potatoes, but without success. Who can help her?

Recipes.

CHRISTMAS PLUM PUDDING, No. 1.—One pound of suet chopped fine, one lb. raisins, one lb. currants, half lb. of flour, half lb. of bread crumbs, one pint milk, four eggs, half a nutmeg, one ounce of citron and lemon peel, one teaspoonful ginger, and a glass of boiled cider. Use as much of the milk as will mix it together very thick. Boil five hours at least.

No. 2 PLAIN.—One cup of molasses, half a cup of sugar, one cup and a half of chopped suet, one cup of raisins chopped, one cup of currants, two cups of sweet milk, five or six cups of flour, one teaspoon of soda, and two of cream tartar, salt, one or two eggs, and spice to taste. Boil three hours.

CHRISTMAS CAKE, No. 1.—One pound of butter, one lb. sugar, beaten to a cream, one lb. of flour, ten eggs, well beaten, two pounds of currants, one lb. and a half of raisins, one quarter of a lb. of lemon peel, half a pound of almond, blanched and split in two lengthwise, one nutmeg, cinnamon and cloves to taste, and three quarters of a cup of molasses. Bake four hours in a moderate oven.

No. 2 PLAIN.—Two eggs, half a cup of butter, one cup of molasses, one cup of raisins and one of currants, two cups of flour, half a teaspoonful of soda, one tea-spoonful of cream tar-tar, salt and all kinds of spice to taste.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—The time has come around again when I can wish all my dear children a Merry Xmas and a Happy New Year, and may you have a right jolly good time in the holidays. What a splendid illustration Mr. Weld gives you this month of merrymaking—it tells its own tale. Old Santa Claus appearing with his immense pack on his back to the children, fairly making them dance with joy; the roast beef, turkey and plum pudding all running in; the game of blind-man's-buff in the evening in which old and young join; the young gentleman threatening to kiss the young lady under the mistletoe, an ancient English and German custom; the old year 1885 bowing himself out, soon the door will be closed and he will be gone forever. The members of Uncle Tom's family during the past year I think must be wiser as well as older, and therefore better prepared for the duties and responsibilities of life—more fitted to enjoy its good and conquer its evils. It is not wise to make many promises for the future, but it is our intention to make the ADVOCATE more interesting and instructive than ever before, and we hope a great number of new nephews and nieces, as well as all the old ones, will enjoy its benefits. I hope to make the puzzles more interesting to all, and instead of working the whole year for a prize, I will divide the year into periods of three or four months, thus giving a far greater number of prizes; but I will tell you all about this in the January number, when the names of those who won prizes in 1885 will be published. To be able to do our part better, I hope you will do your best, dear children, by trying to procure some new subscribers for the ADVOCATE, and inducing all your companions and schoolmates to join Uncle Tom's family. Look over the list of handsome prizes offered and try at least to win one. Now let me hear from each one how you spent your Xmas, and what Santa Claus put in your stockings, and about all your fun, for though I am growing old, I will remember the little things which gave me so much pleasure at Xmas-time. Thanking you all for your kind letters and good wishes, and hoping to hear from every one of you soon, with best wishes for a Merry Xmas, from

UNCLE TOM.

Puzzles.

1—ILLUSTRATED REBUS.



Q W T S H R

2—TRANSPOSITION.

Kpsea het tthur dan kseap ti eery, Scot ouy twah ti illw Eh how sideh eth gorwn eh ddi Sode teh gorwn itghn llist.

MARY SILCOX.

3—DIAMOND.

1—In "Uncle Tom." 2—Cautious. 3—To fence. 4—Droll. 5—A Christian festival. 6—

Frail. 7—Quadruped. 8—Convenient. 9—In "The Farmer's Advocate."

FAIR BROTHER.

- 4.—STAR. 1—A consonant. 2—Near by. 3—A young Indian child. 4—To reel. 5—An amphibious quadruped. 6—To decoit. 7—Sternutatory. 8—A prefix. 9—A vowel.

FAIR BROTHER.

5.—SYNCOPIATIONS.

- To store = A covering. To mark = A body. Clean = A snare. A high room = Chance. To color = A measure. To darken = To gird. A mark = To violate. A resort = A chase. Weak = To cease. Syncopated letters will give the name of a great naval battle. HENRY REEVE.

Answers to November Puzzles.

- 1.—Aunt—ant—U. Donor—door—N. Fact—fat—C. Ladle—lade—L. Spear—spar—E. Pints—pins—T. Stoop—stop—O. Dime—die—M. Uncle Tom.

- 2.—Marquis of Salisbury. 3.—Braggadocio. 4.—Seven, V. 5.— R D O E N T H R I V E S R O B I N H O O D F A T H E R S B O O K S F O E D

6.—Nothing is troublesome that we do willingly.

- 7.— B P I G R E D G A R B I G B E A R G R E E N V A N R

8.—I hold it true whate'er befall, I feel it when I sorrow most, 'Tis better to have loved and lost Than never to have loved at all.

9.—The best medicine: Joy and temperance and repose, Slam the door on the doctor's nose.

- 10.— C I a M Angelo ROBIN N o T I s e R VerdurE A r e A LaureL

11.—Star-ling; Par-rot. Nigh tin-gale; Whip-poor-will. Spar-row; Mag-pie.

Names of Those Who Have Sent Correct Answer to Nov. Puzzles.

J. Bennett, Nellie McKenzie, Emma Dennee, Robert Kerr, Becca Lowry, Edmund Pepper, "Kathleen," Robt. J. Risk, Alice Mackie, E. W. Hutcheson, Ada Armand, Will Thirlwall, Jennie P. Brubacher, Mary Silcox, I. J. Steele, Hattie Radcliffe, Florence Arnold, Jas. Arnold, Thos. J. Lindsay, "Fair Brother," Samuel Sanders, Frank L. Milner, Minnie Stafford, Georgia Smith, Jane S. Martin, Ellen D. Tupper, Henry Reeve, Willie B. Bell, Wm. Jackson, Robert Wilson, Joseph Allen Wm. A. Laidman, Tillie Hodgins, Wm. Webster, Lottie A. Boss, Mary Morrison, Chas. Herbert Foster, Willie B. Bell, Alice M. Hume.

## Pete's Christmas-Tree.

BY J. H. ANDREWS.

There was a boy whose name was Pete,—  
(I hope he isn't here, because  
I wouldn't dare to tell this if he was.)  
I think you'd better guess the street  
He lived in, and the village too as well,—  
For I sha'n't tell.  
And this boy Pete felt very sad one day ;  
He couldn't play ;  
He left the house and  
wandered far away ;  
He left his kite and  
ball ;  
He didn't feed his rock-  
ing-horse at all ;  
He didn't even whistle  
for the dog,  
But went out through  
the gate.  
And towards the wood  
with melancholy jog  
He did perambulate.  
(What that word means  
'twould take too  
long to state.)  
So—not to keep you in  
suspense—  
He reached a spot where  
trees grew tall and  
dense,  
And clambering upon  
an old rail-fence.  
He sat him down to  
meditate.

'Twas in September,—  
apples every one  
Were ripening in the  
sun ;  
And bobolinks had hard-  
ly yet begun  
To think of leaving  
home ;  
The fields were still in  
bloom ;  
The butterflies and bees  
and all such things  
Were practising their  
wings ;  
And every breeze  
Startled the squirrels,  
who, with merry  
pranks,  
Were playing hide-and-  
seek among the  
trees.  
Nature was gay !  
(As grown-up people  
say.)  
But Peter seemed to feel  
the other way :  
Poor lad !  
He didn't mind the  
beauty of the day ;  
And nothing made  
him glad.  
With fingers in his hair  
he sat alone,—  
And if you'd been  
Among the bushes,  
where he couldn't  
see,  
You would have heard  
him say in mournful  
tone :  
"Oh, dear !  
Why is it Christmas  
comes but once a  
year ?  
Now, look at Sundays,—there's no end to  
them,—  
I don't know who's to blame,—  
They keep a-coming every little while :—  
I got my rocking-horse the other day  
To take a drive ;  
And,—sure as I'm alive !—  
I'd hardly traveled half a mile,  
When mother called out : 'Say,  
Peter, just put that hobby-horse away ;  
It's Sunday now, you mustn't play.'

Yes, ! Sunday every day or two.  
But Christmases,—My ! aint they few !  
Here I've been waiting,  
And calculating  
What I would do  
Next Christmas-time ; and now I've found  
It's three months 'fore it comes around !  
Three months !—oh, dear !—  
Why don't they have it more than once a year !"

Thus Peter did soliloquise,—

His hands upon his eyes,—  
Meanwhile he tries

I might arrange  
To have a change  
About these Christmas days."  
"And now," he says,  
"I'll do this thing : Because  
I do not wonder that old Santa Claus  
Comes only once a year. It's plain to me ;  
For,—can't I see  
He doesn't come at all, except they fix a tree ?  
'Tis very queer  
They fix it only once a year ;  
(How little these old people know !  
I'll teach them something when I grow.)  
But I wont wait till then ;

These grown-up men  
May have their Christ-  
mas once a year ;  
but I,—  
I'll have a dozen if I  
wish. I'll try  
A Christmas-tree to-  
morrow ; if they  
won't  
Help me, I'll have it on  
my own account !  
To-morrow's just the  
day !  
The old folks will be  
gone away  
To visit Uncle Ephraim  
on the hill ;  
I'll have a tree to-mor-  
row—that I will.  
Think of the boys  
Next morning when I  
carry out the toys ;  
Wont their eyes open  
wide !  
And then, beside,  
To fool old Santa Claus  
—oh, what a joke !"  
Thus Peter spoke,  
And, turning on his one  
heel, homeward  
sped,  
Wishing 'twere night,  
and he were safe in  
bed.

Well, night did come at  
last ; he ran up-  
stairs.  
(I fear he rather hurried  
through his pray-  
ers.)  
Full half the night  
awake he lay,  
And waited for the  
day ;  
Then fell asleep to  
dream  
About his wondrous  
scheme.  
When the bell sound-  
ed  
For breakfast, out of  
bed he bounded.  
He laughed, of course,  
To see his brother har-  
nessing the horse ;  
And to himself he  
said :  
"I'll hide the toys well  
underneath the  
bed."  
When he was dressed,  
He found his parents in  
their Sunday best,  
Beside the table.  
Pete, who was hardly  
able

To eat at all that day,  
Soon slipped away,—  
Went out of doors,—

Drove up the gig,—offered to hold the horse ;  
And when he saw the old folks safely in :  
How Pete did grin !  
How he rolled over on the ground  
Till his head whirled around  
With dizziness.  
"And now," said Pete, "to business !"

'Tis sad, but I must tell it.  
Pete soon secured the axe,  
And making sundry tacks



OUR YOUNG FOLKS' XMAS PICTURE.

(With such a frown !)  
To kick the old fence down :—  
But fails,—  
Kicking his boot-heel off against the rails.  
There is no doubt  
But Peter felt uncommonly put out.  
He sat down on a stone—  
When something brought  
A smile upon his face,—the frown was gone,—  
And up he started. "Well, I've got it now,"  
He said. "I thought, somehow,



About the yard, he came upon a tree  
 (As fine a spruce as people ever see),  
 And with most vigorous hacks  
 He tried to fell it.  
 Pete never worked so hard before;  
 And I'll not dare to say  
 How soon that Christmas-tree was on its way  
 Towards the front hall door.  
 More time was spent  
 In getting the long branches bent  
 Between the casing;  
 The tree, in passing,  
 Tore off long strips of paint,  
 But Peter was intent  
 Upon his work, and tugged, till in it went.  
 He dragged it through the hall,  
 Then up the stairs,  
 And stood it in his bedroom, 'gainst the wall,  
 'Till he could cut, for twine,  
 Some rope from the clothes-line,  
 With which he tied it upright, 'twixt two chairs  
 And (must I tell  
 What then befell?)  
 Throughout and 'round the house  
 He darted like a mouse.  
 Half laughing, half afraid,  
 Softly,—yet swiftly as a well-played jig;  
 Making a careful and all-searching raid  
 That Christmas-tree to rig!  
 "For," said he, as he ran,  
 "I'll fix it as I can;  
 I'll do my best,  
 And leave old Santa Claus to do the rest."  
 He ravaged all the house,  
 And tumbled drawers about,  
 Turned closets inside out,  
 For pretty ornaments to deck the boughs.  
 He took the vases,  
 And all the jewelry from out the cases.  
 Bottles of sweet perfume,  
 Took pictures from their places,  
 And hurried to his room.  
 I can't name all the things  
 Which up the stairs he brings,  
 Laughing so merrily;  
 Nor how he hangs them upon the tree,  
 And fastens them with strings;  
 Nor how he handles  
 The tallow candles,  
 And decks the tree in genuine Christmas state—  
 All ready to illuminate!

At last the old folks came home tired;  
 Pete's mother anxiously inquired:  
 "Well, Peter, been at work? You're tired,  
 too?"  
 "Oh, some," he said: "I'm very glad I'm  
 through."  
 "That's right, my boy," the father made reply,  
 "You'll be the man to make your parents proud;  
 The good time's coming, Peter, by and by."  
 "Yes, so is Christmas," murmured Pete,—not  
 loud.  
 It wasn't long before he said:  
 "I guess I'll go to bed."  
 And with a heart which beat  
 With glorious anticipations, Pete  
 Leaped up the stair, thinking what lay ahead.  
 He finds his room, and listens long, until  
 The house is still;  
 Then creeps along the floor,  
 And feels the door;  
 He strikes a match,  
 And fastens down the catch;  
 Then, carefully the bolt he draws,—  
 The fire-board's down in silence most amazing,  
 He sets the candles blazing.  
 "There, now," he says, "we'll lay for Santa  
 Claus!"  
 I don't propose to say  
 How long he lay;  
 Nor can I tell precisely what occurred.  
 For something like an hour or more  
 Stretched out upon the bedroom floor,  
 Pete kept awake but never stirred.  
 Anxious for what should come.  
 Like a starved cat, that long has waited  
 With eager ears and eyes dilated  
 Before some mouse's home.  
 So Pete kept guard, in silence crouching,  
 The dark hole in the fire-place watching.  
 While ever and again his heart beat faster,  
 At some slight cracking of the plaster,  
 Or scratching of a rat,—

And all was stillness after that.  
 'Twas very hard to keep from choking,  
 The candles, somehow, took to smoking,  
 When suddenly Pete heard  
 A sort of fluttering.  
 "Hist!" said he, muttering;  
 "That's he,  
 And now I'll see  
 The load of toys he brings."  
 Then down the chimney the soot came dropping,  
 And into the room without any stopping  
 There burst a host of things  
 With wings!  
 Pete's eye with terror the vision follows,—  
 A great black brood of chimney swallows!  
 And the rapid rate  
 At which they whirled about Pete's pate  
 I couldn't begin to calculate.  
 Whew! —! —! —!  
 How they flew!  
 While every candle-flame burned blue.  
 How Pete did stare,  
 And how his hair  
 Began to rise,—  
 And how his eyes  
 Stood out from his head in mute surprise;  
 And how, 'mid the terrible candle flare,  
 And the swallows whizzing through the air,  
 He jumped, when his father cried,  
 As he battered the door outside,  
 "Why, Pete, what are you doin'?"  
 What a crash!  
 When the luckless youngster made a dash  
 For the door, and stumbling over a chair,  
 That Christmas-tree right then and there,  
 Came down in a fearful ruin!  
 I think I'll drop the story here;  
 But, if you'd like to drop a tear,  
 It wouldn't be difficult, could you see  
 How Peter's father tenderly  
 Lifted his son upon his knee,  
 And used a twig from that green tree.  
 He used it in such a generous way  
 That Peter remembered his Christmas day,  
 And sometime after was heard to say  
 That he'd be a dunce  
 If he wanted that Christmas more than once.  
 Since that famous night  
 He never has taken a patent right  
 For the Christmas he then invented.  
 And even now that he's grown a man  
 He keeps his Christmas, and seems contented  
 To follow the good old plan.

The Little Ones' Column.

Dressing Mary Ann.

- 1.—She came to me one Christmas day  
 In paper with a card to say:
  - 2.—"From Santa Claus and Uncle John"—  
 And not a stitch the child had on.
  - 3.—"I'll dress you; never mind," said I,  
 "And brush your hair; now don't you cry."
  - 4.—First, I made her little hose,  
 And shaped them nicely at the toes.
  - 5.—Then I bought a pair of shoes,—  
 A lovely dolly's number twos.
  - 6.—Next I made a petticoat,  
 And put a chain around her throat.
  - 7.—Then when she shivered, I made haste,  
 And cut her out an underwaist.
  - 8.—Next I made a pretty dress,  
 It took me most a week, I guess.
  - 9.—And then I named her Mary Ann,  
 And gave the dear a paper fan.
  - 10.—Next I made a velvet sacque  
 That fitted nicely in the back.
  - 11.—Then I trimmed a lovely hat,—  
 Oh, how sweet she looked in that!
  - 12.—And dear, my sakes, that wasn't all,  
 I bought her next a parasol!
- She looked so grand when she was dressed,  
 You really never would have guessed  
 How very plain she seemed to be  
 The day when first she came to me.

Commercial.

THE FARMER'S ADVOCATE OFFICE,  
London, Ont., Dec. 1, 1885.

The past month has been one of extremely wet weather, so much so as to very much retard the fall work. In many sections it has been too wet to plow. Trade has been quiet and the movement of produce light, caused to some extent by the almost impassable state of the roads. We see some complaints of the state of the roads made by local papers. Although the roads are not what they might, nor yet what they should be, yet they are steadily improving. This improvement is not so noticeable on the main roads as on the concessions and side lines.

WHEAT.

The advices from winter wheat sections in the States indicate a very favorable condition and outlook for the fall sown area. The same applies to Ontario. The general situation in this country and abroad is not favorable to an advancing course of wheat values for the near future. What speculation may bring about no one can foretell. The prices of English markets are lower than a year ago, and the offerings are relatively free, while the British markets are depressed with the excessive receipts of flour.

Current prices of wheat in Chicago are 15 cents higher than a year ago, and 7½ cents higher than the average of last year, from November 1st to July 1st.

It is said that France will want 20 to 30 million bushels of wheat before next harvest, but they will not buy much till their home stock is exhausted, from the fact that owing to the French duty on imports of wheat and flour, the home price is not high enough to allow importing. Prices will have to advance 18 cents above that in England to allow buying from abroad without a loss. When the time does come it never takes them long to buy what they want. They have been known to buy this amount in a few days.

There are two elements which can effect wheat for an advance materially above present values—more serious foreign political complications, and an unfavorable winter season for the fall sown wheat. With a quieter feeling abroad, and favorable winter conditions for wheat, the average of prices for the remainder of the crop season cannot well be expected to be higher than now ruling. Manipulation, however, may take form at any time and press prices to an extreme limit.

CLOVER SEED.

The market for this article has not as yet assumed any definite shape. The crop in this country is not a large one, and while the local trade no doubt will want a large percentage of what we have in this country, this demand will be in proportion to the price at which it can be sold retail. At six to seven dollars retail, farmers will buy nearly double what they would were the price eight to nine dollars.

A late London, Eng., circular, dated Nov. 2, 1885, says:

"Red Clover—England—There will be little seed of fair color, but small. The mown seed, owing to the prolonged drought, started its second growth very late, and was accordingly not ripe when the broken weather set in, followed by early frost. It has matured very slowly and under most unfavorable conditions.

Most of what has been secured has been badly got in, a good deal having been quite spoiled by the rain, while not a few fields are still un-out. It may be safely asserted that the crop will be extremely short, and the bulk of it of inferior quality. Some quantity of yearling seed exists in farmer's hands, but the great majority of the growers were too poor to keep any over. France.—In the extreme south there is a fair crop of the usual small pale quality. In Poitou, Anjou and Touraine, there is a little seed of good deep color, but small. In the rest of France the crop is very short and of poor quality, while in Brittany, the latest district, the seed has been nearly all spoiled by the rain. Very little yearling seed exists in France. Belgium.—There is a little bold English looking seed in the Campine district, bringing 70 to 80 per cwt., but the total quantity is of no importance. Germany, with the Austrian Empire, has barely an average crop on the whole, though it is good in some districts. The quality is mostly fair, with a few very fine samples. A considerable stock remained over at the end of last season. Italy has a good crop of the usual pale uninviting quality, of which little ever comes to England, it finding a better market in the south of Europe."

There will be a good deal more Alsike seed offered this season than heretofore, and buyers will no doubt discriminate as to sample, and anything below the average will have to be sold reasonable.

LIVE STOCK.

Markets for live stock in Great Britain have been somewhat better since our previous report, but are still unsettled and very sensitive to any heavy shipments or liberal supplies. Prime Canadian steers were quoted at 12½c. per lb. Fair to choice grades were at 12c., and fair to medium at 11c. These quotations are on the basis of \$4.80 in the £.

The following shows the prices of prime Canadian steers in Liverpool on the dates mentioned :

	1885. per lb. cents.	1884. per lb. cents.
November 23.....	12½	.....
November 16.....	12	14½
November 9.....	11	14
November 2.....	10½	14½
October 26.....	10	13½
October 19.....	11	13
October 12.....	11	14½
October 5.....	11½	15
September 28.....	12½	15
September 21.....	12	15
September 14.....	13	15
September 7.....	14	15½
August 31.....	14	15½
August 24.....	13½	15½
August 17.....	13	.....
August 10.....	13½	.....

APPLES.

The movement of apples this fall has been pretty free, and the prices paid to farmers have been all the markets would warrant; in fact, those who have handled them have not been making any money. A Glasgow circular dated the 14th Nov., quotes Canadian Kings at 14s. to 16s.; Greenings, at 10s. to 11s., and fine Reds at 12s. to 13s. The arrivals have been heavy and not in the best condition.

The following were the exports of apples from the port of Montreal for the week ended November 21 :—

Per	To	Brls.
Texas.....	Bristol.....	599
Grecian.....	Glasgow.....	2,403
Polynesian.....	Liverpool.....	1,899
Corean.....	London.....	3,275
Lake Huron.....	Liverpool.....	509
Total.....		9,385
Previous week.....		19,165
Total for season.....		65,179

CHEESE.

Cheese has been dragging along for the past month without any life or animation. Ten cents was freely offered by the dealers some six weeks ago, but a good many salesmen refused this figure, asking 10½c. and in some instances 11c. These same salesmen would now like to see an offer of 10c. We don't believe they would wait five minutes to consider the matter before accepting. While stocks are not excessive, yet they seem to be ample to meet the requirements of the trade till after Xmas, and we do not look for any life in the trade till after that date. It is a pity salesmen could not make up their minds to accept the market price for their cheese when ready to ship. This would very much facilitate the trade, and save them a great amount of unnecessary trouble and anxiety. Why cannot ten or twelve factory-men mutually agree to sell their cheese in this way, and set their fellow salesmen an example? It only requires a little cool determination. We have no hesitation in saying that they would show quite as good an average as their neighbors who are pursuing the present course. Let some five or more make a move in this direction next season, and we venture to predict that others will soon fall into line.

With the present outlook, nine cents is the extreme price for finest fall cheese. Factory-men may hold for another month and then sell for the same money.

The sales of cheese on the London market this season have footed up to 44,590 boxes. Last year the sales only footed up to 18,635 boxes.

BUTTER.

The butter market is passing through a period of more than ordinary depression. The cause of this state of affairs is brought about by the dealers holding their butter in hopes of making better prices in the fall. Time and again this most foolish policy has been condemned, and the ill effects on the trade and heavy losses which it involves, conclusively shown. The place which these Canadian goods now laying around the country would have filled, has been taken by butter and the productions of other countries. The result of this is that heavy stocks are left over in the country, which it is thought must exceed 70,000 packages, with very little prospect of any outlet this fall or winter. The day for holding butter has gone by, and he who bears this fact in mind, and can make cost or a small profit on his butter, had better sell. Creamery salesmen who were offered 21 and 22 cents when butter was on the up turn, cannot now make more than 18 cents for the same goods.

The Montreal Gazette sums up the season's trade in cheese and butter as follows :

DAIRY PRODUCE EXPORTS—12 SEASONS.

Now that the last steamer has left port this season a full and detailed statement of the exports of dairy produce can be presented, which covers the past twelve seasons. The figures show the enormous development of the cheese trade and the almost equally great decline in the butter trade at a glance. The total exports of butter this season were 66,540 packages, of which 25,416 packages were on through shipment—a decrease of 41,597 packages compared with 1884, a decrease of 26,221 from 1883, an increase of 1,921 over 1882, a decrease of 63,941 from 1881, a decrease of 127,826 from 1880, a decrease of 113,792 from 1879, a decrease of 89,856 from 1878, a decrease of 20,705 from 1877, a decrease of 14,508 from 1876, a decrease of 48,977 from 1875, and a decrease of 13,666 from 1874. The value of the butter exports may be put at \$665,000—a decrease of \$435,000 from 1884, of \$530,000 from 1883, of \$285,000 from 1882, of \$1,005,000 from 1881, of \$1,915,000 from 1880, and of \$1,245,000 from 1879. A considerable percentage of this decline in values is due to the low range of prices which is especially seen when the past season is compared with 1882, the quantity being a trifle larger than in that year. The total exports of cheese this season were 1,079,963 boxes, of which 440,020 boxes were on through shipment—a decrease of 31,784 boxes compared with 1884, an increase of 217,051 over 1883, an increase of 389,452 over 1882, of 524,816 over 1881, of 569,644 over 1880, of 560,414 over 1879, of 608,987 over 1878, of 678,525 over 1877, of 611,003 over 1876, of 569,601 over 1875, and of 717,411 over 1874. The value of the cheese exports was \$5,100,000—a decrease of \$1,450,000 from 1884, a decrease of \$175,000 from 1883, an increase of \$25,000 over 1882, of \$1,380,000 over 1881, of \$1,380,000 over 1880, and of \$2,860,000 over 1879. The following were the exports during the last twelve seasons:—

	Butter, pkgs.	Cheese, boxes.
1885.....	66,540	1,079,963
1884.....	103,137	1,108,447
1883.....	92,764	859,612
1882.....	64,630	677,311
1881.....	130,481	531,848
1880.....	194,366	507,019
1879.....	180,332	516,249
1878.....	106,399	467,676
1877.....	87,245	398,138
1876.....	168,018	465,660
1875.....	115,417	507,062
1874.....	80,296	359,252

The following shows the distribution of the exports of butter during the years mentioned:—

	1885.	1884.	1883.
Liverpool.....	23,641	72,810	65,088
Glasgow.....	22,446	21,549	16,196
London.....	1,526	1,491	18
Bristol.....	19,927	12,387	11,462
Liverpool.....	40,833	84,071	136,054
Glasgow.....	15,629	28,496	37,819
London.....	175	2,311	5,741
Bristol.....	7,933	15,563	14,712
Liverpool.....	142,069	187,900	75,244
Glasgow.....	22,339	29,005	29,005
London.....	1,853	1,811	1,811
Bristol.....	14,080	14,080	339

The following shows the distribution of the exports of cheese during the years mentioned:—

	1885.	1884.	1883.
Liverpool.....	656,868	748,764	610,425
Glasgow.....	125,823	119,482	118,233
London.....	105,592	61,872	22,706
Bristol.....	188,330	188,329	108,188
Liverpool.....	515,773	428,499	378,697
Glasgow.....	59,293	40,097	45,352
London.....	21,966	17,063	41,587
Bristol.....	78,216	66,188	41,333
W Hartlepool.....	935	.....	.....
Newcastle.....	998	.....	.....
Liverpool.....	396,716	438,994	438,994
Glasgow.....	25,617	25,437	25,437
London.....	53,154	53,154	29,120
Bristol.....	40,762	40,762	5,315

The value of the exports in round figures was as follows:—

	Butter.	Cheese.
1885.....	\$ 665,000	\$5,100,000
1884.....	1,105,000	6,540,000
1883.....	1,195,000	5,275,000
1882.....	950,000	4,850,000
1881.....	1,670,000	3,720,000
1880.....	2,580,000	3,700,000
1879.....	1,910,000	2,240,000

PRICES AT FARMERS' WAGONS, TORONTO.  
Nov. 27, 1885.

Wheat, fall, per bushel.....	\$0 85	0 87
Wheat, spring, do.....	0 85	0 87
Wheat, goose, do.....	0 76	0 78
Barley, do.....	0 60	0 89
Oats, do.....	0 55	0 37
Peas, do.....	0 61	0 61
Rye, do.....	0 60	0 62
Beans, do.....	1 0	1 25
Dressed hogs, per 100 lbs.....	5 50	0 00
Beef, forequarters.....	3 00	4 00
Beef, hindquarters.....	5 50	7 00
Mutton, carcass.....	4 50	5 50
Hay, timothy.....	14 00	16 50
Hay, clover.....	11 00	13 00

PRICES AT ST. LAWRENCE MARKET, TORONTO.  
Oct. 30, 1885.

Chickens, per pair.....	\$0 45	0 65
Ducks, do.....	0 50	0 65
Butter, pound rolls.....	20	21
Butter, large rolls.....	13	15
Butter, inferior.....	10	12
Lard.....	10	00
Bacon.....	9	11
Turkeys.....	75	110
Geese.....	70	90
Cheese.....	8	12
Eggs, fresh, per dozen.....	23	24
Potatoes, per bag (new).....	55	65
Apples per bbl.....	75	2 00
Cabbage, per doz.....	25	30
Turnips per bag.....	35	40
Carrots, per bag.....	30	40
Beets, per doz, bunches.....	35	40
Parsnips per peck.....	15	20
Onions per bag.....	1 00	1 20
Cauliflower, per doz.....	50	80

Hog cholera prevails in 250 of the chief pork producing counties of the West.

At the Chicago fat stock show were exhibited the biggest steer and the lightest cow in the world, says the Philadelphia Weekly Press. The steer weighs 4,250 pounds. The cow is from Scotland, thirty-six inches high, weighs 354 pounds, and gives three gallons of milk daily.

ADVERTISING RATES.

The regular rate for ordinary advertisements is 25c. per line, nonpariel, or \$3 per inch. No advertisement inserted for less than \$1. Special contracts for definite time and space made on application.

Advertisements unaccompanied by specific instructions inserted until ordered out, and charged at regular rates.

The FARMER'S ADVOCATE is the unrivalled advertising medium to reach the farmers of Canada, exceeding in circulation the combined issues of all the other agricultural publications in the Dominion. Send for an advertising circular and an estimate.

SPECIAL NOTICE.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless, we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf.

NEW ADVERTISEMENTS.

AUCTION SALE OF SHROPSHIRE SHEEP.

The undersigned will sell by auction, at his farm, two miles south of Guelph,

On Thursday, December 17th, 1885,

(the day after the Guelph Fat Stock Show), his whole flock of Shropshire Sheep—50 Ewes, 30 Ewe Lambs, and 20 Rams. Most of the ewes imported and in lamb to imp. "Instone"—No. 544—American Shropshire Record, or imp. "Shrawarden Hero." Also, the whole of his Horses, Cattle and Implements. No reserve, as the proprietor has leased his farm. Terms—10 months' credit. For particulars address 240-a JAS. GLENNIE, Gourock P. O., Ont.

SHORTHORNS FOR SALE.

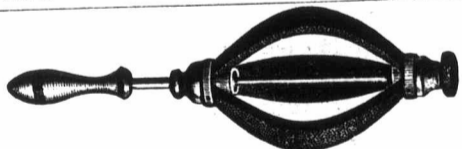
SEVERAL YOUNG BULLS, YOUNG COWS & Heifers, registered in B. A. H. B.

J. & R. MCQUEEN, Salem P. O., Elora Station.

FOR SALE.

SEVERAL PURE-BRED LEICESTER LAMBS at \$10 each, from imported stock; Light Brahma Cockerels (McKay's strain), at \$2 each; also Suffolk Pigs at reasonable prices.

Correspondence solicited early. F. J. RAMSAY, Dunnville, Ont.



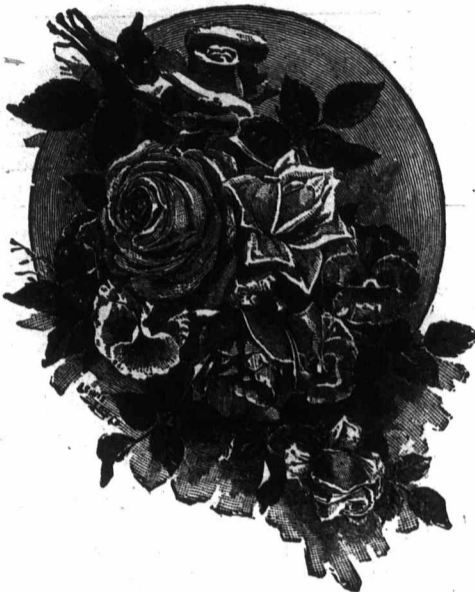
NOVELTY LAMP GLASS CLEANER. Pat. in Canada and U.S. Male and female agents wanted to sell this, the best selling article ever handled. Samples sent by mail for 25 cents. Address, DELOUCHE & CO., Sole Manufacturers and Patentees, Guelph, Ont. Agents can make from \$2 to \$5 per day. Agents' prices sent with sample.

THORLEY FOOD

EMPIRE HORSE AND CATTLE FOOD CO., MITCHELL, ONT.

The only Food Co. in Canada ever awarded "A SILVER MEDAL" by the Provincial Association of Ontario.

In constant use at the Model Farm since 1881—last shipment of 500 lbs. on 29th Sept., 1885. Used more extensively by leading feeders than any other preparation. Invaluable for horses, fattening cattle, milch cows, calves, sheep and pigs. Numerous testimonials from prominent breeders. We grind our own ingredients and guarantee their purity, which is done by no other Food Co. in Canada. If you cannot get our food from your dealers, send direct to the mill. Do not be deceived by dealers, who may wish to sell you an inferior article. Price at the mill \$3.25 per 100 lbs., less quantities at higher rate. Cash must accompany all orders. We also manufacture an excellent Poultry Food.



Vick's Illustrated Monthly Magazine

This engraving represents the ELEGANT COLORED PLATE, 11 1/2 x 14 1/2 inches, of ROSES AND PANSIES, which will be given away to cash subscribers to VICK'S ILLUSTRATED MONTHLY MAGAZINE, a beautiful publication, treating on every phase of gardening; 32 pages reading matter; colored plate, and many fine engravings each month. Price, \$1.25 per year.

Any person sending four subscriptions with \$5.00, will receive Free a PORTFOLIO OF RARE AND BEAUTIFUL FLOWERS, consisting of Six Large Colored Plates, 11 1/2 x 14 1/2 inches, size and color true to nature, representing some of the rarest and most beautiful flowers in the world, and which, in their natural state, few persons will be apt to see. The Rose and Pansy Plate will be given to each member of the club. Price of Portfolio alone is \$2.00, and of the Rose and Pansy Plate, 50c. Everyone should possess a copy of this exquisite Portfolio. It is more than worth the effort.

VICK'S FLORAL GUIDE,

A beautiful work of nearly 200 pages, Colored Plate and 100 Illustrations, with descriptions of the best Flowers and Vegetables, prices of SEEDS and Plants, and how to get and grow them. Printed in English and German. Price only 10 cents, which may be deducted from first order.

JAMES VICK, Seedsman, ROCHESTER, N. Y.

GARDEN, FIELD, FLOWER AND TREE

SEEDS

STERLING WORTH AND QUALITY HAVE MADE SIMMERS' SEEDS the most popular brands. Sow them and you will use none but Simmers'.

All Seeds Mailed Free on receipt of Catalogue Price. Please send your address for a Seed Catalogue, free on application.

J. A. SIMMERS SEEDSMAN, - - TORONTO. (Established 1856.) 240-d

FRANK WILSON'S CORN, BONE and SHELL GRINDING MILLS

Are a complete success for crushing Oyster Shells, grinding Bone Meal, and all kinds of Grain.

A Peck of Shells can be Crushed in Twenty Minutes.

Every Poultry-keeper should have one. Circulars giving description free by mail on application.

PRICE, \$7.00; with legs, \$9.00. WM. RENNIE, TORONTO 240-a

Choice Red Fife Wheat!

Having procured last season, at a very high cost, an improved variety of the RED FIFE WHEAT, I sowed it on my seed Farm, Scarborough, and had a yield of about 33 bushels per acre. It withstood the rust and smut where all other varieties failed. It stools out immensely, much more so than the common Red Fife, so that only about half the usual quantity is required to sow an acre. One stool has been known to have 72 bearing stalks. Price per 60 lbs., \$1.50, in lots to suit purchasers. Also CHOICE WHITE FIFE, my own raising, per 60 lbs., \$1.25. Cotton bags 25c. each. Seed Catalogues ready about Feb. 1st next. Send for a copy.

GEORGE KEITH, SEED GROWER and IMPORTER, 124 King Street East, TORONTO. 240-a

DEDERICK'S HAY PRESSES.

are sent anywhere on trial to operate against all other presses. the customer keeping the one that suits best.

Manufactory at 90 College Street, Montreal, P. Q. Address for circular P. K. DEDERICK & CO., Albany, N. Y.

SANITARIUM, 320 DUNDAS-ST., LONDON, ONT.

SPECIAL TREATMENT FOR Catarrh, Rheumatism, Paralysis, Sciatica, Dropsy, Female Complaints, Kidney Diseases, Nervous Disorders, and all Obstinate Chronic Maladies.

Send for Circular. J. G. WILSON, 240-c Electropathic and Hygiene Physician.

EDUCATION.

To the consideration of readers of the FARMER'S ADVOCATE, the undersigned begs respectfully to present the superior advantages offered by the GUELPH BUSINESS COLLEGE, Guelph, Ont. More than 100 students, representing the Provinces of Ontario and Quebec and three States of the Union, were in attendance during the first scholastic year. The second year began the 1st September last. Graduates of the College are already holding positions of trust and responsibility in Canada and the United States. The fixed course of study includes Book-keeping, Penmanship, Commercial Arithmetic, Business Practice, Business Forms and Correspondence, Banking, Practical Grammar and Composition, Calligraph Writing and Commercial Law. Thorough courses are offered in Shorthand, Telegraphy and French. Look for the continuation of this subject in the next issue of the FARMER'S ADVOCATE, and meanwhile send for a free copy of the College Catalogue to M. MACCORMICK, Principal. 240-y

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Cor. King and James Sts. (opposite the Gore), HAMILTON, ONT

A FIRST CLASS BUSINESS TRAINING COLLEGE

Practical in every department; well qualified and energetic teachers; system new, unsurpassed by that of any other College of the kind, and endorsed by the leading business men of the city.

SHORTHAND AND TELEGRAPHY BY SKILLED INSTRUCTORS

Ladies admitted to full course. Terms reasonable. For further particulars address

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Ontario Business College, BELLEVILLE, ONT. 17th YEAR.

The widespread reputation of this institution, created by the thoroughness of its work and the great success of its graduates, is manifested in the attendance, which, within a short period, has embraced students from fifteen different Provinces and States, including two of the West India Islands. Students can enter at any time, receive individual instruction, and progress according to ability. For circulars, address

ROBINSON & JOHNSON, Belleville, Ont. 240-a

1885

Cheese, boxes, 1,076,663, 1,084,447, 859,612, 677,311, 551,848, 507,019, 516,249, 467,676, 398,138, 465,660, 507,062, 359,252, exports of

1883, 65,088, 16,196, 18, 11,462, 1880, 196,064, 37,879, 5,741, 14,712, 1878, 75,244, 29,006, 1,811, 339

Exports of 1883, 610,425, 118,233, 22,766, 108,198, 1880, 378,697, 45,352, 41,587, 41,393, 1878, 493,994, 29,437, 29,120, 5,315, as fol-

Cheese, \$5,100,000, 6,540,000, 5,375,000, 4,850,000, 3,730,000, 3,700,000, 2,240,000

TO, 1885,

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TO, 1885,

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WHICH HAS A

**Dominion Deposit of \$100,000**

has experienced another year of great prosperity having issued 1,820 new policies in 1884 for \$2,423,200. As compared with the previous year, this shows an increase of 232 in the number of policies, and \$387,600 in the amount assured. The total number of policies in force at close of 1884 is 6,086, covering assurance for the sum of \$7,835,900.71.

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is the people's Company, owned and controlled solely by and in the interests of the policy-holders, and stands unimpeachable in the soundness of its basis and the equitable relationship its INDIVIDUAL bears to its COLLECTIVE membership.

The following shows the steady progress The Ontario Life has made from a very small beginning, in 1870, until it has attained its present respectable dimensions:-

Year.	Assets.	Year.	Assets.
1870.....	\$ 6,216	1877.....	\$110,209
1871.....	7,330	1878.....	142,619
1872.....	12,246	1879.....	177,397
1873.....	23,142	1880.....	227,424
1874.....	33,721	1881.....	339,909
1875.....	53,651	1882.....	427,429
1876.....	81,105	1883.....	532,705
and for 1884.....			\$652,661.76

In addition to the rapid growth of its assets there has been, from year to year,

- A gain in membership,
- A gain in premium receipts,
- A gain in interest receipts,
- A gain in assurance in force,
- A gain in gross income,
- A gain in new business,
- A gain in surplus, and
- A gain in readily convertible cash assets.

**The Ontario Mutual Life**

does a strictly Life Insurance business. It has no speculative feature. It issues no Tontine Policies, at the expense of the many and for the benefit of the few. It has no stockholders—the assets and surplus all belong to the insured.

This Company values its policies annually; holds full Reserves, and divides the surplus among its policy-holders annually on the contribution plan—each member sharing in proportion as he has contributed thereto. Its surplus dividends have always been exceedingly liberal, thus rapidly reducing the COST of assurance.

It guarantees in plain figures on its policies definite surrender values, either in cash or paid-up assurance, thereby enabling a member to know the value of his policy at any time, and withdraw without loss in case of necessity.

No Company has ever excelled

**The Ontario Mutual Life**

in the promptness with which it pays its death losses. It paid no less than THIRTY-FIVE policies during 1884, immediately on completion of claim papers, each claim having been paid on the very day the usual discharge reached the head office and without any abatement for prompt payment.

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invests nearly all its reserve funds in first mortgages on improved farms, interest annually at current rates, and expenses very low. Permission granted to pay off any part of the principal at the end of the third and any subsequent year.

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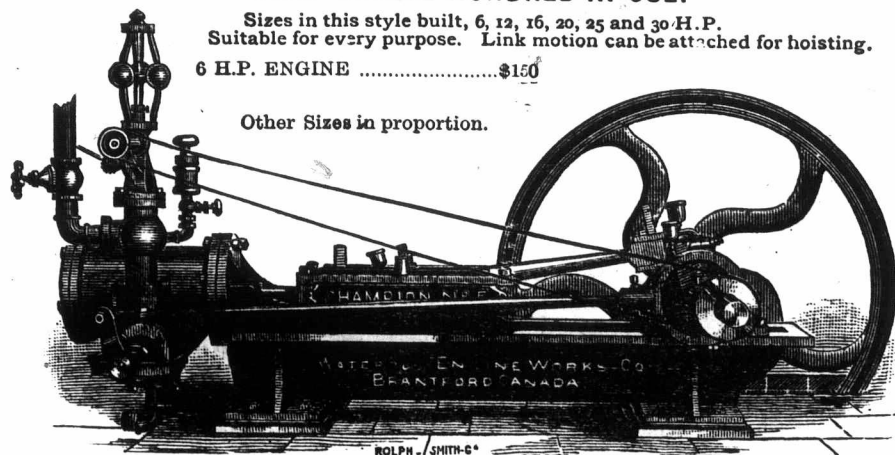
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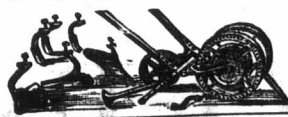
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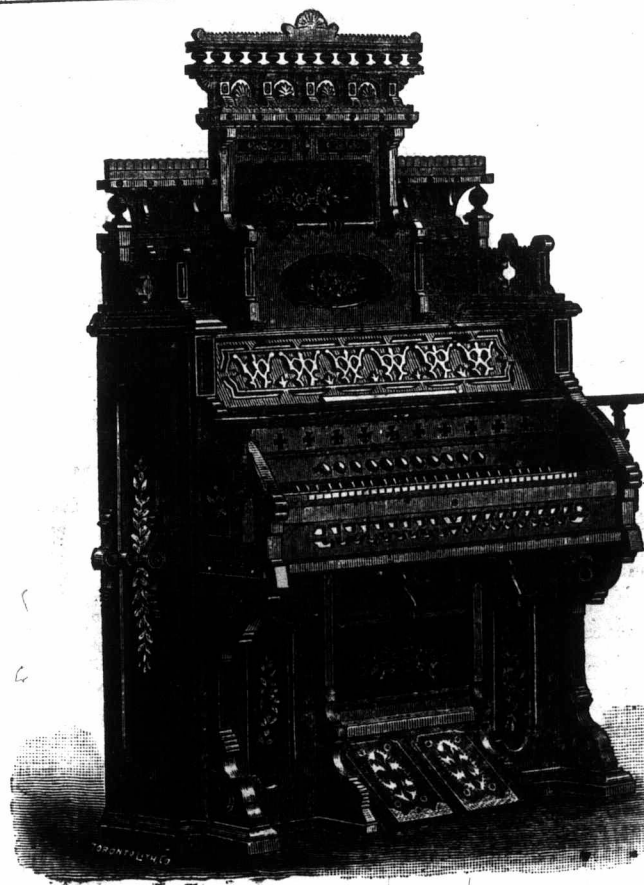
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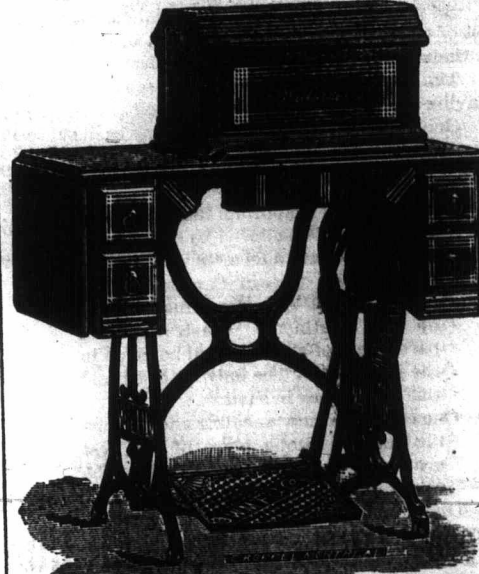
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USE the BOSS Zinc and Leather Interfering BOOTS and COLLAR PADS. They are the best. 230-b

# PRIZES FOR 1886

**THE MOST PLEASING AND MOST PROFITABLE PREMIUMS  
TO BE OBTAINED WITHOUT MONEY.**

Given only to Subscribers for obtaining new names to the Farmer's Advocate.

As only one of each of the special varieties marked \* are to be given, the first party sending in the first list of names will have the premium; others competing can make a selection from the balance of the list, or their money will be refunded, as desired. The following articles will be all sent by mail, postage pre-paid. The trees will be good plants, cut back, leaving good roots, thus ensuring good growth the first season, and will be carefully packed. One dollar in cash must accompany each subscriber's name sent in.

No. of New Subscribers.	Value.	No. of New Subscribers.	Value.
*10—Half-bushel of Emporium Black Walnuts, from what is believed to be the most handsome walnut tree, the most important historic tree in Canada, and the best variety of the most valuable wood on this continent. Illustration and particulars of this tree will be given in the Advocate. The only lot to be sold this spring now in sand.	5 00	1—Package consisting of one Virginia Creeper; this is the hardiest creeper, very handsome; will thrive in Manitoba; also three of the Alder, or Ash-leaved Maple trees; they are well adapted to all parts of Canada, they are too seldom met with, but should be planted: they appeared the most thriving and most beautiful of deciduous trees that we saw thriving in Manitoba	50
*10—One cutting of new seedling and promising grape; and one plant of the best grape we have yet tested that can be raised unprotected in Canada.	5 00	1—The best Apple specially adapted to the most northern parts that apples will grow.	50
*10—One young Peach Tree—peaches grown have weighed over one pound; only one to be disposed of in Canada this year	5 00	1—The best Crab Apple specially adapted to the most northern parts that apples will grow.	50
*10—Pear tree, new. The most delicious pear we have tasted in America. Only one to be disposed of this year.	5 00	2—One plant, best, earliest maturing and largest Chestnut. Very scarce. See page 355, Dec. No. For trial.	1 00
*10—One package of a new and believed to be highly valuable Garden Pea.	5 00	1—Three cultivated Chestnut Trees.	50
*10—One package of new Field Corn, earliest maturing, valuable for northern latitudes.	5 00	1—Two Black Walnut Trees.	50
*10—New promising variety of Potato. Considered the best to resist rot.	5 00	1—Two Catalpa Speciosa Trees; a most rapid growing and valuable tree. See page 332, Nov. No. For trial in Western Ontario.	50
3—One Niagara Grape.	1 50	1—One package three varieties of valuable Field Seeds.	50
3—One Empire State Grape.	1 50	1—Package of choice Vegetable Seeds.	1 00
1—One Clinton, one Hartford Prolific Grape and one Delaware Grape. The hardiest and most popular varieties.	50	1—Package of choice Flower Seeds.	1 00
1—Two plants of Japanese Ivy; the cleanest, neatest and most handsome of climbers. See page 353, December No. Best adapted for Western Ontario climate.	50		

\*The names of these varieties are not given for the following reasons:—The farmers of Canada can testify that many of the best cereals and roots they have grown on their farms for the past twenty years have been introduced by the FARMER'S ADVOCATE, and then spread to other parts of the continent (often by changing the names). To prevent this as much as possible, is our reason for withholding the names of these valuable varieties until our subscribers have time to propagate, and thus reap a greater remuneration for their pains. The Australian oats have had their name changed four times since we introduced them. The White Russian wheat was introduced by us many years ago from New Brunswick under the name of the Lost Nation. The Clawson wheat was first introduced by us from the prize farm in New York, and the name altered to the Seneca, etc., etc. These new and valuable varieties have been tested and are now being propagated by some of the best seedsmen and horticulturists in America; they are not yet raised in sufficient quantities to be catalogued, and are not yet named. No pains or expense is spared to procure every new variety that is deemed to be of value to the country. Further particulars will be given to those obtaining the new varieties, and in due time to the public. Address the FARMER'S ADVOCATE, LONDON, ONT.

**SPECIAL NOTICE.**—Owing to our limited space this month we have to omit several letters which demand answers. We might say, however, that we do the inquirers no injustice, for some have not complied with our conditions, and others, even old subscribers, have asked questions which have been answered over and over again. We would make an exception in favor of new subscribers. The ADVOCATE is indexed every year, so that there can be no difficulty in turning up information on almost any subject. For the purpose of aiding our subscribers, we have made special arrangements with Mr. Chas. Chapman, bookbinder, of this city, for binding the ADVOCATE at reduced rates—only 60c. a volume, double volume (two years) 75c., and where farmers club together and send 10 volumes at once, they can get them bound for 50c. each.

### Stock Notes.

Messrs. Kilgour & Co., of Quebec, have recently imported twelve head of Holstein-Friesian cattle. Mr. W. W. Goodall, of Thornhill Farm, Brantford, has bought a dozen of Mr. Wm. Patteson's best Shropshire Down ewes, one-half of them being direct importations from the flocks of Lord Chesham and Mr. Parry, of Bromsgrove, Worcestershire. All are served by the ram imported from the flock of Sir Henry Allsopp.

### Notices.

We would feel obliged to our old subscribers if, when sending in your renewed subscription, you would send on a list of names of farmers and their P. O. addresses, that are not yet subscribers, but might or should be, so that we might send a sample copy to them.

A poultry and pet stock association has been formed at Chatham, with Mr. W. E. Wells as President, and Mr. J. M. McPherson, as Secretary Treasurer. It was decided to hold a combined Poultry and Bench Show in Chatham, on December 29th, 30th, 31st, and January 1st.

We are in receipt of Grip's Almanac for 1886. We consider it the best Comic Almanac we have ever seen. It is full of fun, humor and originality, touching the leading topics of Canadian literature of the present time. The numerous cartoons and sketches are executed in a masterly and artistic manner. We know of nothing that will give you more pleasure and fun; all who see it must be delighted with it, from the Queen to the humblest peasant. A study of it will increase your knowledge of geography and political economy; it will save ten times its cost in doctors' bills, and will make your sides ache with laughter, and you will not forget it. We will send one of these Almanacs and one other entertaining present, that will give you all pleasure, to any one of our subscribers who will send us in a new paid subscriber with one dollar. Be sure and get this combination of fun in every household. You will not regret it. You cannot get so much fun and amusement in any other manner as cheaply.

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 WITHIN 3 MILES OF THE CITY OF LONDON, ONT.  
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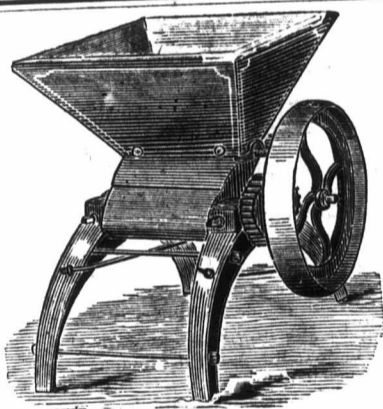


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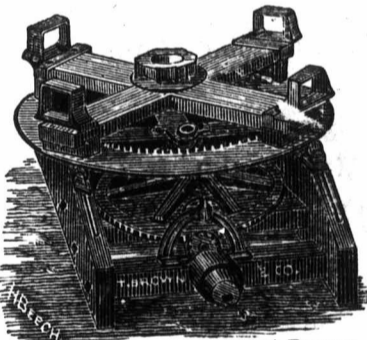
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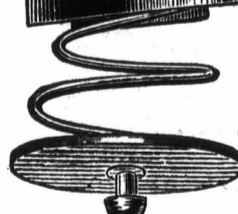
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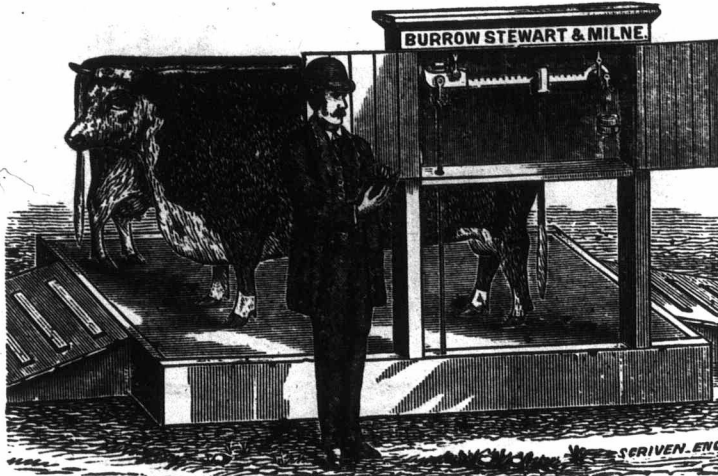
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This new Spiral Spring Pad Truss has taken ten years to make it perfect; is guaranteed to hold the very worst case during the hardest work or severest strain. It will cure every child sure; and 80 out of every 100 adults. Be warned—don't waste your money on useless appliances, but send stamp for our treatise; it contains full information, your neighbors' testimony, price list, and questions for you to answer. When writing please mention this paper.

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230-c

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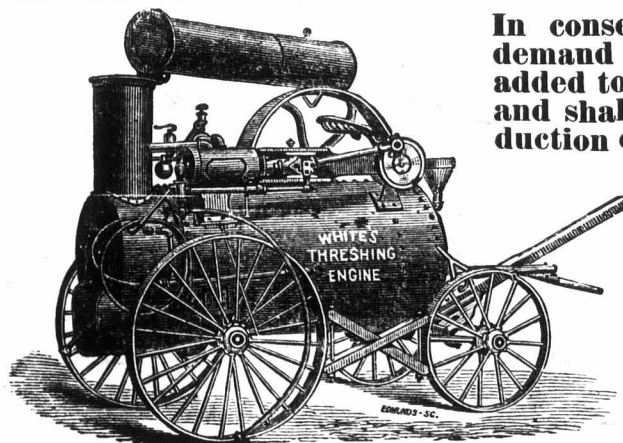
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