

FARMER'S the ADVOCATE

AND HOME MAGAZINE.

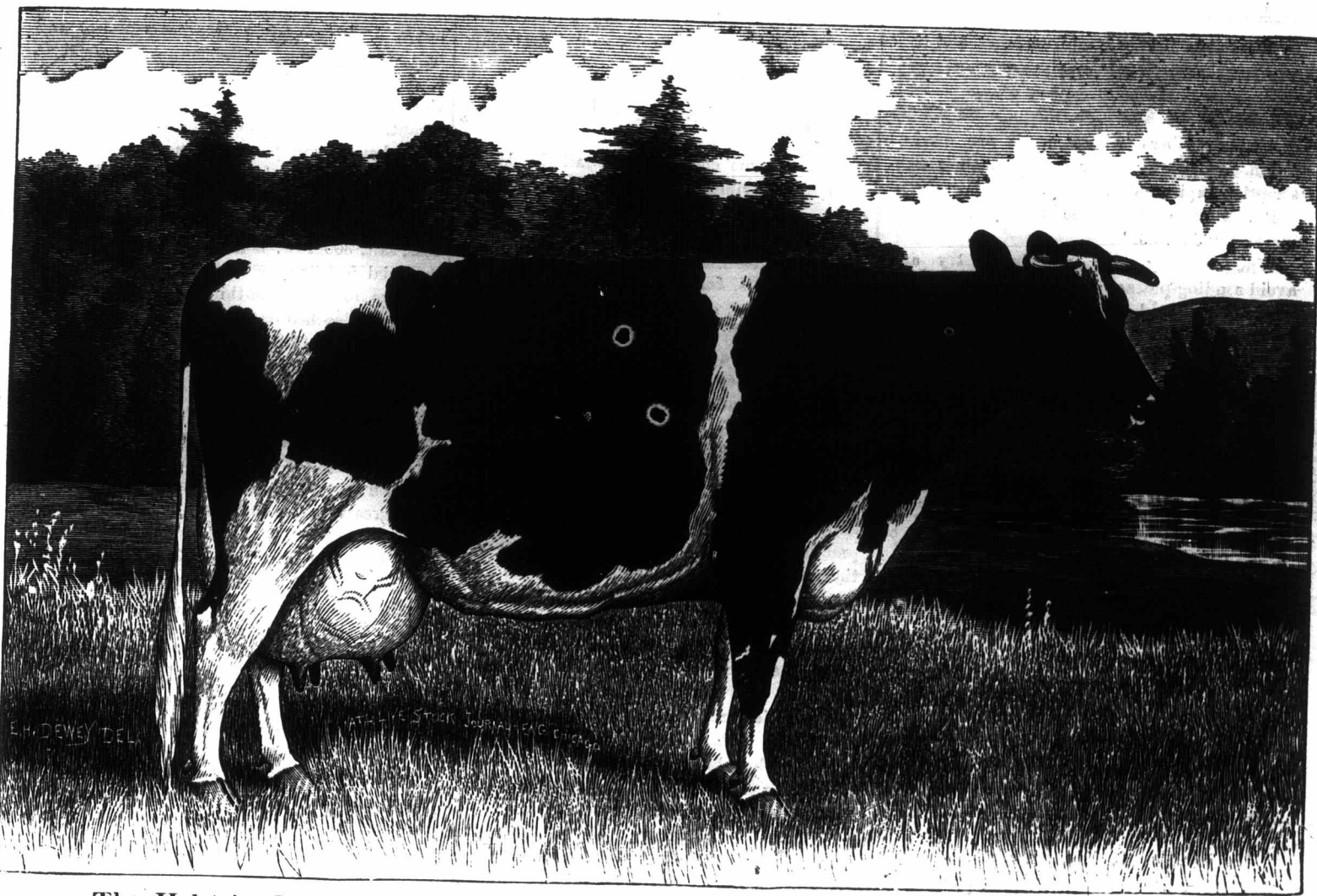
FOUNDED, 1866.

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LONDON, ONT., FEBRUARY, 1885.

Whole No. 230.

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The Holstein Cow, "Hamming," the Property of B. B. Lord & Son, Sinclairville, N. Y

The Holstein Cow, "Hamming."

The noted Holstein cow "Hamming," owned and imported by Messrs. B. B. Lord & Son, Sinclairville, N. Y., of which we herewith present an illustration, is a model of her kind. Her record is 99 lbs. of milk in a day. This breed is now well known throughout Canada, and are very popular wherever they have been introduced. Of all the milking breeds known to our farmers, it is best adapted to our climate, and it is not so delicate in constitution as many of its rivals. It does not require such attentive nursing as the male breeds, although it well repays generous treatment. It is a pro-

digious eater and utilizes coarser foods than any other breed. It has great impressive power and permanency of character, and will therefore rapidly improve our native herds.

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when travelling is a slow and expensive business, and when you will perhaps have to wait half a day before you can get your little necessities attended to. Keep a supply of all sorts of repairs on hand, and see that your implements are in such a condition that they will not be liable to break on the least provocation. If time is money, it is particularly so during the busy seasons.

I am pleased to see that you are neither saving time nor money to make the ADVOCATE such as every farmer will want it.

JAMES I. DAVISON, Balsam.

FOUNDED 1866.

The FARMER'S ADVOCATE and HOME MAGAZINE

Published on or about the 1st of each month, is handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for dairymen, for farmers, gardeners and stockmen, of any publication in Canada.

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for 1884 are now for sale. Price, \$1.60, post-
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As many of our readers are constantly in-
quiring where they may get their ADVOCATES
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arrangements with Mr. Charles Chapman, of
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library.

Editorial.**Farmers' Institutes.**

The Farmers' Institutes for this season being now over, it would be well to review what they have accomplished. It would not be fair to measure their practical value by the amount of enthusiasm which the professors received, or the loud toned praises which resounded over the Province through the partizan press and other worshippers of the College and Farm; for the meetings of the professors with the farmers face to face on the public platform have produced a different impression from those involving walks and talks on the Model Farm. Nobody submits that there has been anything seriously wrong in the administration of the affairs of the College; it is the mismanagement of the Farm against which many of our farmers have complained so bitterly, and should they find that the professors of the College are attempting to shield the mismanagers of the Farm, the day of reckoning will be near at hand.

It has become customary to call the Model Farm an experiment station. This is a gross error. All experiment stations are controlled by professional experimenters, who have unanimously adopted the scientific method of investigation—that is, *know before you do*, the practical motto being, *do that you may know*. Our Government have never explained the reason why they have adopted the practical method, but only two explanations can be given; (1) they did not understand the difference between the two methods, and (2) they regarded themselves wiser than all other authorities. In order to make the muddle complete, they commenced, a year or two ago, to change their system of experimenting with fertilizers from the practical to the scientific method, and placed the control under practical management. The fattening and the dairy experiments are still under practical control. In considering this question it must be distinctly borne in mind that the science always includes the practice, or rather the art, whereas the practice can never include the science, for if the doing follows the knowing, the practice then becomes an art; it is the art of farming that we should struggle after. It is therefore absurd to say that an agricultural experiment has scientific, without practical, value. A practical experiment may be of some service to the experimenter himself; but not having taken all the varied conditions—that is the *principles or science*—into consideration, it may be of no use to anybody else. We make these observations that the reader may comprehend more clearly whether he should be guided by the practices of the Model farmers as ascertained by visiting the Farm, or by the precepts which have been preached during the expired few weeks at the Farmers' Institutes.

One of the practical professors has made the marvellous discovery that we are feeding our beef cattle for the manure, the beef being a mere secondary consideration, that there is no profit in feeding for beef alone. He has further discovered, no doubt through his experience at the Model Farm, that the soil in this Province possesses almost unlimited fertility. Moreover, some papers were read on the value

of the manure heap, and the importance of saving it from waste. This led us to inquire into the Model Farm method of making and saving the manure. We found that the practical professors fed higher rations than the practical farmers for the purpose of enriching the manure heap, and they sprinkled it frequently over with plaster in order to still further enhance its fertilizing value. In order to produce this valuable heap, much richer rations are fed than have been found necessary to produce the quickest and most profitable results in the production of beef. The manure from the different cattle stables is scattered over a large yard, and allowed to ferment, freeze, or fire-fang at will, and on a rainy day the life blood of the heap may be seen flowing down a descent to sink into the soil or find its way into the water courses. During the winter part of the manure is drawn into the fields, and thrown in large heaps to undergo a further process of leaching by the spring rains. The manure is valued at \$2.55 a ton, but it is not certain whether it is the leached or the unleached manure that is meant. After a series of practical experiments it has been found that it is necessary to add the following artificial fertilizers to 15 tons per acre of the above mentioned farmyard manure: Mineral superphosphate, 150 lbs.; plaster, 150 lbs.; salt, 300 lbs.; bone-dust, 200 lbs., these artificial fertilizers costing nine or ten dollars per acre, or about one-third of the value of the substance leached out of every 15 tons of farmyard manure. This is the Model Farm practice; the preaching has been listened to by thousands of intelligent farmers throughout the Province during the past few weeks. Shall our farmers be governed by what the Modelites do or what they say?

With regard to the feeding "experiments," still greater objections may be urged against the practical method of investigation. We shall not enter into the details of this question at present, for it was fully exposed in the December issue of the ADVOCATE. The professors of the College are perfectly well aware that these experiments are misleading and worthless, and we fear they have lost the confidence of the farming community in not having boldly expressed their convictions at the Farmers' Institutes. They even selected a few isolated cases in which the correct "nutritive ratio" happened to be guessed at, and used these as a means of leading the farmers into the delusion that the experiments were correctly conducted. Even if the experiments were conducted on correct principles, we will undertake to prove that the mode of carrying them out is sufficient to destroy their usefulness.

If the Model Farm can make no practical use of agricultural experiments, it should not attempt to thrust them on the farmers with the view of inducing them to believe that it is working in their interests.

In case you become disabled for working with your hands, be sure and keep a reserve force in your head.

A half a century ago the agricultural motto was "root, hog, or die;" up to the present the motto has been "toil or die," and now it is "think or die." It is the part of the lower animals to root and toil; it is man's part to prove the ascendancy of mind over snout and muscle.

The Wheat-Chess Question Again.

In our September issue will be found an illustration of a head of wheat from whose base a spikelet of chess protrudes. We stated that Mr. W. Saunders, of this city, one of our most eminent authorities, had examined it, and that he had forwarded it to Prof. Beal, of the Michigan Agricultural College. Meanwhile, however, the annual meeting of the Michigan Horticultural Society was held, to which Mr. Saunders brought the phenomenal specimen. A committee, consisting of distinguished botanists and practical horticulturists, was appointed to examine it more closely, and upon bringing it under the microscope, the stem of the chess spikelet was observed to be caught in the capsule or glutinous envelope of the straw. It was concluded that the stalks of wheat and chess had grown adjacently from the ground, and that while the wheat was still green, the head of chess had in some way become lodged below the ear of wheat, and in growing the wheat had snapped off a spikelet from the chess.

It would be presumptuous on our part to dispute the conclusions of these eminent authorities, but we fear that the question will still remain unsettled in the farmers' minds.

The Value of Straw.

A correspondent in criticising our article on the cost of raising wheat, which appeared in our January issue, says we did not credit the field with the straw. We anticipated this objection, and it gives rise to one of the most practical questions in connection with farming. It is quite in conformity with good book-keeping to debit a field with all the labor and material expended upon it, and credit it with what it produces, so that the field in question should have been credited with the straw as well as the wheat. The wheat, however, produced a fixed amount of money, but what valuation are we to attach to the straw? It may be valued (1) according to its nutritive value; (2) according to its market price; and (3) according to the actual profit which it brings the farmer. In practice the farmer is only concerned in the latter valuation, except in a few instances, in which the farmers live near towns or cities, when the market prices may be applied to the calculation. Now, if the straw brings the farmer a loss instead of a profit, why not debit the field instead of crediting it? In our November issue we pointed out that straw could be fed more cheaply than hay if used with the most concentrated foods, but when fed in the ordinary way it produced a ruinous loss; and, in many cases, the more straw the farmer has the heavier the loss. If our correspondent will show us one farmer who makes a dollar a ton out of his wheat straw, we will show him ten farmers who lose two dollars a ton.

Many farmers feed straw skillfully enough, and their loss is confined to the manure. Straw has a certain manurial value, but this is outweighed by the mode of treatment. If they used no straw for litter they would draw their manure directly to the field without being fermented or decomposed; the damage sustained by injuring the mechanical texture of the soil often does more harm than the manurial value does good. Under such circumstances the burning of the straw, although 60 per cent of its manurial value would then be wasted, would result in a final balance in the farmer's favor.

How to Save the Manure.

No. VI

2. *The Supply of Phosphoric Acid.*—By perusal of our remarks on nitrogen, the farmer will readily perceive when this element is present in the soil; if now phosphoric acid is deficient, the supply of nitrogen will be of little use to the crop. It is not so easy to ascertain the presence or absence of phosphoric acid as the supply of nitrogen. Plants not only contain organic matter, but also mineral or inorganic matter, so that decayed vegetation must contain all the elements of plant food. All the elements of the plant except nitrogen are inorganic. We must also except carbon, but as this element is derived from the atmosphere, not from the soil, we shall omit its consideration. The nitrogenous and carbonaceous compounds are combustible, but the inorganic compounds are not, and remain as ashes after being burnt. The inorganic portions of the soil are silica (sand), lime, phosphoric acid, sulphuric acid, potash, soda, iron, magnesia and chlorine. All these must be present in the soil, as well as nitrogen, for no plant can grow if any one of them is absent. We may, however, except soda and chlorine, which unite to form common salt, but these elements are always found in plants, although not absolutely necessary for their development. There is another substance called alumina, forming the chief constituent of clay, which is found in every fertile soil, but it is not taken up by the plant. Of these essential constituents of the plant, as before remarked, all are usually present in the soil in sufficient abundance for plant food except nitrogen, phosphoric acid and potash. Plants are spoken of as living on food, but they drink to live; they can't eat, so plant food must first be made soluble in water before it can be drunk by the plant.

There are many sources of phosphoric acid, but we shall confine our remarks to those which are readily procurable by our farmers. The chief of these is bones. We cannot treat of phosphoric acid so simply as nitrogen, for it is found combined with other plant foods. It is true that the soda of the nitrate of soda, and the sulphur of sulphate of ammonia are also food for plants, but these fertilizers are only valued for the quantity of nitrogen they contain, and we shall hereafter speak of these elements of plant food which are beneficial on account of the mechanical influence they exercise. Bones, however, although chiefly valued for the percentage of their phosphoric acid, also contain appreciable quantities of nitrogen and potash, as well as other less valuable constituents of the plant. They are almost a complete fertilizer, and are valuable for all crops and soils. Bones contain about 50 per cent of phosphate of lime. This substance is composed of three portions of lime for one of phosphoric acid, and is but slightly soluble in water; but if the bones are ground fine, they gradually become soluble in the soil by the action of rain and of the gelatine of the bone, which contains the nitrogen. This gelatine is the part of the bone from which glue is made, and by fermentation in the soil aids the decomposition of the phosphate of lime. If the bones are steamed or boiled, the organic matter which contains the nitrogen is more or less removed, and the bones then become less valuable. If the bones are burnt a substance called

bone ash is obtained, which is valued only for the phosphate of lime it contains.

But bones are frequently sold by the dealers in the form of *superphosphate*. This is the soluble phosphate of lime, made by treating the bones with sulphuric acid. Phosphate of lime being composed of one part phosphoric acid and three parts lime, the sulphuric acid displaces two parts of the lime and substitutes water, sulphate of lime (gypsum) being at the same time formed. All the phosphate of lime is not dissolved by the sulphuric acid, the quantity made soluble being dependent upon the quantity and strength of the sulphuric acid. What is sold as superphosphate therefore contains nitrogen, phosphoric acid and gypsum, but in the true sense of the word, superphosphate means the quantity of phosphate of lime rendered soluble. The farmer's method of making bones soluble by the application of ashes has often been described in the *ADVOCATE*.

There is another kind of bone phosphate sold in our markets known as *precipitated phosphate*. This is made by adding lime to the superphosphate, by which the phosphate then becomes two parts lime, one part water, and one part phosphoric acid. This is but partially soluble in water, and is therefore intermediate in activity between the three lime phosphate and the superphosphate or one lime phosphate. This fertilizer is very popular.

Now it is well known that phosphate of lime is found in rocks as well as in bones. The deposit sometimes assumes a crystalline form, and it is then called *apatite*; when not crystallized it is known as *phosphorite*, the latter being the more soluble. These are also converted into superphosphate by sulphuric acid, and are also extensively used in the ground state. Of all the phosphate rocks that have yet been discovered, the Canadian is the most valuable, containing 75 to 90 per cent of phosphate of lime; yet, like our ashes and our timber, it is shipped out of our country, as if it were a nuisance, to enrich other nations, and the next generation will rise in their might and call us cursed, when they find that their inherited soil has been robbed of its fertility, and nothing left to enrich it.

The advantage of superphosphate over the other forms of phosphates is that, being soluble, it is readily taken up by the plant, and what remains becomes more thoroughly incorporated with the soil. If there is lime or iron in the soil it almost immediately reverts to its insoluble condition, but it is in such a finely powdered state that it is far more available for the plant than the pulverized phosphate. On this point the ignorance of our farmers is taken advantage of by many dealers. They advise the use of the soluble form because it acts more quickly, so that farmers can see almost immediate results, and become elated over their purchase. They don't seem to observe that such fertilizers hardly wait to finish the growth of the crop which they started so luxuriantly, and the effects cease with the first season. With all respect to active fertilizers, used at the right time and in the right place, if farmers could once appreciate the durability of the more insoluble fertilizers, they would act much more intelligently in the purchase and application of concentrated fertilizers, and the saving would be considerable. The ignorance of the farmer

is also played upon in another way: Fertilizers are sold containing substances which are not plant food, but serve to unlock the fertility already in the soil, thereby hastening impoverishment, the farmers caring only for a large yield, not regarding whence it springs.

The question now to be considered is, How can the farm yard manure be saved by the use of phosphoric acid? Although containing all the elements of plant food, farm yard manure is highly nitrogenous, with also a considerable percentage of potash, the phosphoric acid therefore being deficient. This is easily explained from the fact that the bones of the animal, as well as all the other tissues except fat, require large quantities of phosphates, leaving the manure poor in phosphoric acid. Unleached farm yard manure is particularly nitrogenous and alkaline, for the nitrogen and the potash being more soluble than the phosphates, are more easily washed out by the rains. Now if a farmer has say 15 acres that require manuring, and has only enough farm yard manure for 10 acres, by the use of a few barrels of bone dust or superphosphate he can bring the 15 acres into as complete a state of fertility as he could bring the 10 acres without the use of the phosphates, for in the latter case he must apply much more nitrogen and potash than are required in order to get a sufficiency of phosphoric acid.

On the Wing.

Recently when in Toronto we met a stout, hearty-looking gentleman, Dr. —, of —, N. Y. Conversation turned to the present depression. To the booming and rings was attributed much of the present shrinkage. The Chicago grain ring was instanced, and regret was expressed that ex-President Grant should have been mixed up in such an affair, and the low standard of honor in connection with these rings was expressed. "Honor be d—d," said the Doctor; "we have no such a word in our vocabulary, and any person attempting to do business on honor would starve to death." The above appeared bosh and contemptible at first, but after duly considering the remarks and looking around, there may have been more truth in the statement than there ought to be. A few years ago we heard Josh Billings deliver an address in the City Hall, London, Ont., before a large audience. He quoted the maxim, viz.: "An honest man is the noblest work of God;" but,

he added, "the first edition is not out of the author's hands." There were no groans or hisses. If these are the general sentiments of our cousins, and if they are partially endorsed by Canadians, we beg on the part of England to denounce such vile aspersions on our nation. The admission of such would be confessing that our fathers and mothers were lying thieves, for without honor that must be admitted.

gains are worth. Each one of you has the standard of honor or dishonor in your localities; you may look around your own section and we presume that you will find the most honest man the happiest and most contented. He may not be the most loquacious, noisy, expensive or showy, but we as Canadians should try and maintain the name that Britain has bequeathed to us. Ladies, if some of the

American gentlemen admit they have no honest men, would you not say, give the ladies the franchise? We believe our Queens and our mothers are not devoid of honor.

IS IT POSSIBLE?

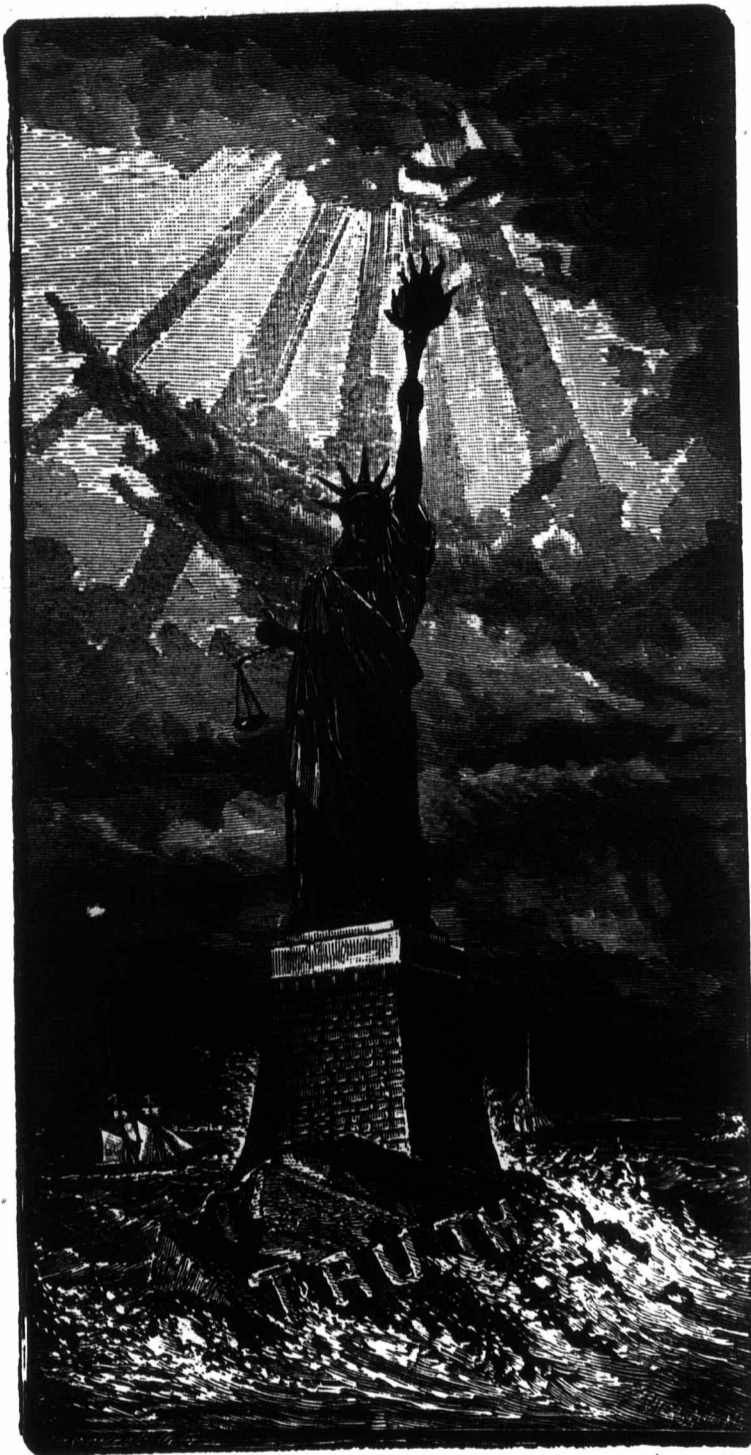
None can deny the necessity of there being two parties to manage the affairs of a nation. All honorable persons deplore the low means that are too often employed to advance the position of either party. Truth is too often disregarded. Your ADVOCATE has endeavored, from time to time, to secure to our agricultural interest freedom from this bitter and often demoralizing strife, and that the contending parties might unite for the interest of this, the main support of our nation. We have not yet despaired. We believe our force is yearly increasing, and now present you with an illustration of a standard around which we hope all well wishers of our country may unite. Perhaps some may not consider this strictly an agricultural illustration, nor suitable for an agricultural journal, but we consider it is the foundation on which agriculturists should stand, namely, Light, Truth and Justice. We believe the hand of the Dynamiter, the Boycotter, the Nihilist and the Communist, who are rapidly gaining strength, may be more effectually stayed by the erection of the above standard than by any other means. Each one of you has some influence and power, and is able to do good or injury.

PLANS TAKEN TO ELECT OFFICERS.

The improper plans taken to elect officers to represent the agricultural and horticultural interest should be more fully

brought to light. The authorities who are aware of these modes would do well to be cognizant of them. The too numerous schemes to take farmers' hard earned cash from them, their widows and orphans, should be discouraged. The numerous and apparently fraudulent practices of some monetary institutions and defaulting companies, even in this county, and the escape from justice of culprits, should awaken us to our interest.

Honor yet remains in the British vocabulary and in many a British heart, but it has met with tremendous abuse, and sometimes appears almost dead. In many cases and instances it would appear, even in Canada, that the Doctor was right; in places honor may be at very low ebb, still we have every confidence that honor will prevail and those who gain a momentary advantage by dishonorable practices meet with far greater reverses than their apparent



"LIGHT, TRUTH, JUSTICE."
ARE YOU FOR OR AGAINST THE STANDARD?

Special Contributors.

A Chatty Letter from the States.

[FROM OUR CHICAGO CORRESPONDENT.]

With few exceptions, the stockmen of the west are in stringent financial circumstances; and it seems quite anomalous when one considers that the country is full of stock and full of grain and various kinds of feed. Hard times in the midst of plenty is rather a new order of things; but such seems to be the situation, and there are very few stockmen who are not compelled to seek support until such time as there will be a better demand for their stocks.

What are the causes of the depression, temporary though they may be? Fictitious values for fine stock, reckless extravagance and mismanagement of ranchmen and feeders, based upon false valuations. In short, there is one word which expresses all that is the matter with the cattlemen of the west, who, a few months ago, were feeling so puffed up over their prospects. That one word is "boom." We have the same cattle, the same owners, and just as many men willing to invest at good, reasonable, living rates; all that is the matter is that the boom has been punctured and has collapsed, and there is now a trying reaction from the illegitimate speculative values of a while ago.

The only practical difference I can see between the state of affairs now and then is that a year or so ago the men in the business, with of course notable exceptions, were half crazy over the booming prospects; and now they have quieted down to a rational basis. The dangers of the times have compelled men to exercise a little of that genius which is aptly termed the rarest of all genius, the genius of common sense.

Several prominent western fine stock breeders have come to grief, largely, it is said, through their part in trying to promote the booms which their respective breeds were enjoying a few months ago. It was the practice among a certain crowd of breeders to force the prices on their cattle, even if the breeders had to buy from one another, at outrageously high prices, which they often did. They were playing a desperate game to pull the wool over the eyes of novices who were wanting to buy into the cattle business, and some of them were beaten at their own game.

The legitimate market for fine cattle of the standard breeds is good enough for this time of the year, and breeders who are satisfied with reasonable market prices are very well satisfied with the outlook. But if you ask some of the boomers how the outlook is, you will be met with dreadfully long faces and ominous shakes of the head.

Thus far this year the arrivals of live stock at the Chicago market have greatly exceeded the arrivals during the corresponding time last year, particularly of hogs, and prices are now considerably lower than they were one year ago.

The hogs this year show a great improvement in quality over last. They are fatter and also better bred. It is a remarkable thing to look over fifty to sixty thousand head of hogs here in a day and perhaps not find half a dozen lots of white hogs. The Berkshire and Poland-Chinas have fairly crowded other breeds out, at

least one seldom sees any but the well known black and spotted hogs. The time was when black hogs were scarce, but now a load of pure white hogs in the yards is regarded as quite a curiosity.

The strong demand for thrifty young cattle to put on feed is indication that the farmers have the fattening material on hand, and that they have some confidence in the future of the beef market because they are paying relatively very high prices for good young stock.

There is talk among the western papers now that the old prejudice against white and mixed colored Shorthorns has received something of a setback among stockmen since the successful advent of Clarence Kirklevington. It is said that the success of that animal at the last Chicago Fat Stock Show will have a good effect in that direction. It seems absurd, because the prejudice heretofore against white cattle has been on account of their looks and the difficulty of keeping them looking presentable, far more than because of any real or supposed inferiority as beef cattle. But such slaves to fashion are we, that I verily believe if one or two of the best animals at the next great show should happen to be white, the old prejudice would be completely upset.

There is exactly the same objection to a white steer that there is to a white horse; he simply requires a good deal more work to keep in good appearance than one of any other color. But after the work has been done, what is more beautiful than a snow white horse or ox?

So deep is the color prejudice, that not a few reputable breeders are of the opinion that the solid red is a prominent characteristic and an unailing indication of the excellent quality of a Shorthorn. This is simply nonsense. The solid reds are always more thought of and better cared for than the whites or even roans, but to claim a characteristic color for the best Shorthorns is rather ridiculous.

But it does seem odd that it is possible to find such a variety of colors among the Shorthorns, when every other breed has distinctive markings and color.

For a high class beef animal the Hereford-Shorthorn ox does not seem to have a peer in the judgment of some of the best makers of beef. Both Shorthorn men and Hereford men admit that it is an improvement on the thoroughbred of either kind. The fact that the Shorthorn men think it is crossing with their cattle that makes the Herefords better, and that the other people think *vice versa*, does not cut any important figure with the general public.

The best animal at the late Smithfield Club Show was a Hereford-Shorthorn. Somehow the intermixing of the two great breeds seems to give the qualities which gladden the hearts of the best butchers. In raising grade bulls for the western plains, breeders of Herefords seem to prefer grade Shorthorn cows to those of their own breed. But the opinion is held by men of experience that the first cross of the two breeds is the best and can never be improved upon by subsequent mixing.

There is something all wrong with the kind of material fed to our meat animals, and it seems time to call a halt and find what is wrong. Our cattle, hogs, and sheep of the so-called best quality come to market with a superabundance of blubber, grease and tallow. Everybody ad-

mires the outward appearance of these animals as they appear in the stalls; and they are usually sold to some helpless customer in high-toned hotels and restaurants, who is almost compelled to buy the "best" that comes to keep up his reputation.

As Mr. John Adams said to me of cattle feeders: "They spoil them with fat even at two years old." The proportion and distribution of fat is somehow all wrong. We are supposed to be making progress every year in the matter of making "marbled" beef, but the progress is really very slow; all of the talk about the rapid improvement to the contrary notwithstanding. Do we feed too fast? Or is the fault in the kind of feeding material used? A remark of "Marshfield's" in last number about the highest livers among the sporting classes of society preferring the meat of game to that of over-fed and under-exercised ones, reminds me that one reason why Texas and Western range cattle are so well liked is because their wild life and natural feed gives their flesh a certain gamey relish.

The average farmer cannot, and would not if he could, give his fattening animals enough exercise to develop muscle, and so it will be necessary in order to produce the best results to make a reform in the manner of feeding and to substitute feed that will make muscle, for that which is almost entirely fat producing.

Salt: Its Use and Abuse.

BY MARSHFIELD.

I came near calling the salt question a craze. In a craze the victim dies against light, and allows his passion to clope with common sense. With regard to the use of salt, however, both for man and beast, authorities disagree; and it is my purpose merely to draw attention to certain underlying principles which are evaded by writers on the subject. My reason for doing so is because there is at present a strong tendency amongst agricultural writers to create a boom; and when I read their articles I am constrained to believe that they cannot sleep soundly if they neglect to advise the farmers to keep a copious supply of salt in the manger or a huge hunk in the lane or the pasture field.

Such writers totally ignore the issue as to whether salt is intended for a food or a medicine, and I am therefore forced into the examination of both sides of the question. I shall open the case by asserting what cannot be denied, viz., that common salt is mineral or inorganic. Now science tells us that plants live on the mineral and animals on the vegetable kingdom. It does not alter the case to say that some animals live on the animal kingdom. If salt be a food, its defenders must now either prove that science is false or that salt is an exception to the rule. Here it must be positively understood that the common salt which is found in all plants is food for animals, and is absolutely essential to their existence; it is inorganic salts to which I take objection.

Of all the different varieties of salts found in plants, and consequently also in the soil, how can it be explained or conceived that common salt only is always deficient? How is it that this is the only kind of salt that can be used for food in the inorganic state? It is said that salt supplies sodium salts to the secretions of the body.

If so, why not eat saltpetre, or chloride of potassium to supply potassium salts, superphosphates to supply calcium salts, etc.? In this way the animal might be able to dispense with the vegetable kingdom altogether. These reflections show the absurdity of the use of salt for food, and the question cannot be defended from any standpoint whatever.

The only defence now left for the salt worshippers is its use as a medicine. If it has anything to do with the healing art, its defenders must now prove that animals require a constant supply of medicine; and then it must be shown that salt is the best or cheapest remedy for that particular ailment, or those particular ailments, with which man or beast is perpetually afflicted.

A medicine has a disturbing or alterative effect on the system or on an organ, converting one disease into another of a milder character; but in health such a disturbance or alteration must have an injurious effect, and must create a disease, the potency of which must be in proportion to the strength of the medicine. Let us now consider what medical authorities claim for salt, noticing both the mild and the extravagant claims. In excess it is said that salt is a poison. It would therefore be well to keep it on hand in case you wanted to poison any of your family or domestic animals. It is a remedy for dyspepsia. All right; but be sure that you or your animals have dyspepsia before you administer a dose. It checks hemorrhage of the lungs. If you or your animals are constantly bleeding at the lungs, use salt by all means, if you can find no better or cheaper substitute. In small doses it is a stimulant and tonic. Every mouthful of food you eat contains stimulants and tonics, and if Providence has not supplied a sufficiency for all ordinary purposes, then take salt; but then a change of stimulants and tonics is just as necessary as a change of food. In larger doses it is a purgative and an emetic. Why won't a pill work as well, and how can you prove that salt is the most fashionable emetic?

It must also be remembered that common salt contains many impurities, notably gypsum or sulphate of lime, which are deleterious to the system. It decreases the solvent power of everything you drink, thereby retarding the excretion of effete matter; and many other injurious effects may be laid to the charge of salt.

Such, Mr. Editor, were the arguments which induced me to relinquish the enjoyment of salt, notwithstanding the earnest solicitations of my friends to the contrary. I was told that criminals in olden times were condemned to die by forced abstinence from salt, that wild animals ran voraciously to "salt licks," and many other doleful yarns of a like nature, but I resolved to become a martyr. If by my martyrdom I could prove science to be a fraud, the prospect of my living in the grateful remembrance of prosperity, would be ample reward. It was not until after I had undergone the ordeal that I found that there were whole schools of medicine who repudiated salt both as food and a medicine.

The fact that animals relish salt is no argument in its favor; for it must first be proved that man and beast relish nothing except what is good for them. Many cattle are fond of

chewing bones, not for the common salt or chloride of sodium which they contain, but for another kind of salt called phosphate of lime, and the same line of reasoning would prove that cattle should be salted with this compound. All animals do not get salt. Who will now attempt to draw the line of demarcation between those which do not require salt and those which would perish for want of it?

The result of my experiment has been that I have improved in health, my formerly depraved and abnormal appetite became restored to its natural condition, and I now find that everything I eat has a saline and delicious flavor of its own, which became imperceptible to the taste owing to the use of salt. The true appetizer and stimulant consist in a sense of a variety of flavors, which is destroyed by salted foods, and is as necessary as variety in all other respects.

If salt can now be defended as a luxury, I feel incompetent to urge any argument against its use.

Some experiments with cows have shown that the disuse of salt has checked the flow of milk; other experiments have shown no diminution; but a few tests prove nothing, especially when it is known that any sudden deprivation of salt may act deleteriously for a while, if the animals have long been accustomed to its use. More reliable tests would be made with cows that have never used it. The stimulating effect may have a tendency to increase the quantity of milk to the detriment of the quality.

Common salt is the only kind that can be deficient in plants, for they will flourish without its presence in the soil, so that the only remedy is to strew it on the land as a fertilizer.

The Ohio Agricultural Experiment Station calls attention to the fact that in its experiments, potatoes raised from large, whole seeds ripened nine days earlier than those from seed cut to single eyes.

Farmers in many parts of Nebraska are burning corn for fuel. Soft coal is worth in that State about 22 cents a bushel, and corn does not find ready sale for more than 12 cents, and experiments have shown that two bushels of corn will produce more warmth than one bushel of coal.

Canada is to play an important part in the forthcoming International Exhibition, to be held in Antwerp, Belgium. Great Britain and her colonies will be the centre of attraction, and the space reserved for Canada is said to be about 9,000 square feet, which will be filled with the products of our diversified industries. The exhibition will last about five months. One of the greatest benefits which we shall derive from being so prominently represented will be the tendency of turning the ever swelling tide of emigration to our shores. The Belgians are a most desirable class of people for us to encourage, being industrious and skillful, and our climate is better suited to them than that of most of the other countries to which the tide has been directed. There are many small farmers amongst them, who have some capital, and no doubt a special effort will be made to induce them to cast their lot amongst us.

The Dairy.

Dairymen's Convention.

ANNUAL MEETING OF THE WESTERN ONTARIO DAIRYMEN'S ASSOCIATION.

The annual meeting of the above Association was held at Stratford, on the 14th, 15th and 16th of last month, in presence of a large attendance of the members, and several distinguished dairymen from the United States. Mr. L. R. Richardson, of Strathroy, President of the Association, occupied the chair.

Henry Wade, Secretary of the Agricultural and Arts Association, read a paper on "Cows for the Dairy," in which he chiefly confined his remarks to his experience with the Shorthorns and the Ayrshires. He was in favor of active cows for hilly districts, and advocated breeding from the best females irrespective of breed. He maintained that the dam had the greatest potency in transmitting the milking qualities. He denounced the practice amongst many farmers of selling the best female in the herd, even when they were hard up. Not having kept an account of the quantity and quality of the milk, many farmers did not know their most profitable cows.

Alex. Loppan, Atlas, Mich., spoke of originating herds. He had been breeding from the best native cattle for half a century. He has also a herd of the best Holstein, or rather Dutch-Friesian, cattle, and as he keeps a register of the productions of all his cows, he is able to speak with authority. His native cows readily bring \$100 each, and their yield ranges between 50 and 70 lbs. per day, the Holsteins ranging between 50 and 75 lbs. His herd of natives were built up by in-breeding, and he has found no injurious results from this system. He likes cows that are prodigious consumers. He does not feed high, his chief ration being oats and chaff, with a little corn meal in cold weather.

Mr. Thos. Ballantyne said there was too little attention paid to the breeding and selecting of dairy stock. There was too strong a tendency to judge milk cows by beef points. Cows should be selected to fill the pail, not the eye. He believed in building dairy herds with dairy stock only; and was satisfied that if pure native cattle were used for this purpose, we would soon have dairy herds that would beat the world.

DAIRY EDUCATION.

Mr. S. M. Barré read a paper on the improvement of butter making. He described the different continental systems of dairying and dairy education. He attributed the success of Danish butter to their thorough system of dairy education, their dairy stations, their dairy schools, their dairy conventions, and their dairy literature. Dairying was taught in their public schools, and their stations were presided over by thoroughly scientific experimenters, and their teachers travel from farm to farm. To each exhibit was attached a description of the method on which the butter was made, how the cows were fed, etc. They adapted their methods to the different markets, the butter made for warm, foreign climates was remarkable for its long keeping, and was made on the ice-cooling method, but the

quality made for English and more local consumption was more aromatic and less durable. He maintained that when the centrifugal system became more perfectly understood, it would supercede the ice system. In Denmark the centrifugal was not used for less than 12 or 15 cows; in Canada 20 or 25 cows would be required. He advocated the introduction of the Danish system of education into Canada.

WHAT BUTTER COSTS.

Mr. M. Moyer, Walkerton, Ont., who controls a number of creameries in the county of Bruce, gave his experience in butter making. He allowed the farmers to do their own skimming, so that they could get the milk in the best condition for their calves. He divided the patrons into companies, creating a rivalry between the latter, so that one company was led to look after the fraudulent practices of the other, thus greatly reducing the expenses of manufacture. He made the cream tests on the farms in presence of the farmers. The patrons had all found out that it was the best policy to do what was right. According to this system, dishonesty injured the patrons, not the factory. He found that he could gather the cream and manufacture butter for four cents a pound. His market was in England, where he procured 22½ cents a pound for his butter, leaving 18½ cents to the patrons for their cream. He believed there was as much profit in butter as in cheese, and the labor was no greater. Every farmer could calculate this for himself, for the milk required for one pound of butter would make 2½ lbs. of cheese. Butter making could be continued the whole year through, whereas cheese could only be made in summer, and besides calves could be raised on the skim milk, and the fertility of the soil could thus be kept up. His patrons had done well last year under very disadvantageous circumstances. The season was dry, and he had to close two factories in September, there having been no soiling crops to keep up the flow of milk. He had sent an expert to England at his own expense, and found that his butter was as good as any in the English market, even including the Danish butter, but the English entertained a prejudice against Canadian butter. He thought this could easily be removed. It did not require twenty years to establish a reputation in butter, as was the case with cheese. He repudiated the practice of coloring the butter. He contended that the whole system of private butter making was wrong; storekeepers paid the same price for all grades of butter, and there was no use in trying to change this practice without co-operation. His idea of education was for the butter makers to understand their business, and then let them show the farmers their mistakes practically. He wanted to have the butter shipped fresh as soon as made, and he thought we could soon show that Ontario, as a butter producer, was the best country in the world.

T. D. Curtis, of Syracuse, N. Y., stated that Americans did not care to push a foreign market for their butter; they wanted home consumption. There was no established system of butter making; no maker could duplicate any of his results. That great experimenter, Dr. Sturtevant, could not make any two churnings alike. There were the deep vs. the shallow,

and the slow vs. the rapid cooling systems, and he quoted Dr. Kedzie's exhaustive experiments to prove that moderation in these processes was best. (This result is supported by Prof. Arnold.—Ed.) The speaker said that this continent stood greatly in need of experiment stations, as the experiments as conducted so far were not sufficiently reliable for practical purposes. He repudiated the idea of fairness in the cubic inch system in any form. Actual churning was the only fair test.

Prof. Arnold here explained that justice could not be meted out even by analysis. Churning was approximately reliable. Breed made a great difference in the butter making power of a cubic inch of cream. When the butter globules were large and small mixed, they packed more closely than when they were all of a more or less uniform size. When the globules were mostly all large, the cream was not so solid. Even churning was not a reliable test, but when made under exactly similar conditions, it was an approximation to justice.

SCIENCE VS. PRACTICE.

T. D. Curtis, editor and proprietor of the *Farmer and Dairyman*, Syracuse, N. Y., read an excellent paper on "Some Hints on Dairying." He said no expert could force success under all circumstances; if he could there would be no use for science. Science was uniform and exact; practice had no guide. The practical man stumbled to success, and luck was his god. He dwelt on the defects of curing rooms, on rennet and its preparation, and the injustice of associated dairying. Farmers were not generally aware of the extent of this injustice, especially in butter making, and as soon as they became educated to these defects, there would be a revolution in the dairying business. He put special emphasis on the cubic inch system of measuring cream. So long as these injustices prevailed, no improvement could be expected in stock breeding and feeding.

WHAT YOU SHOULD EAT.

Prof. Arnold read an interesting and practical paper on "Dairy Products as a Food." He said the great majority of people paid no attention to their health or mental sanity; wealth and distinction occupied their whole time and energy. They left their health to the doctor, their quarrels to the lawyer, and their souls to the minister. But publications on health were now becoming more widely diffused and more broadly appreciated than formerly. The conditions in towns and cities were more favorable to the spread of disease than in rural localities. Some foods contained an excess of some constituents of the body; other foods contained a deficiency. Some foods were too heating; others were too cooling; some contained infection, paving the way for disease. Most all our ills can be traced to what goes into our mouths. The milk of every dam was a perfect food for her young. Human and bovine milks differed but little in their chemical composition, so the one could largely be substituted for the other. But milk was not a perfect food for animals of advanced age. It stood to reason that after the period of growth was completed the animal then required less mineral matter or bone forming material, and less nitrogenous or muscle forming material; only enough of these

substances to repair the waste of the system was necessary. The compounds in the food which chiefly built muscular tissue were termed albuminoids; those which chiefly went to bone were mineral matters or ash; and those which supplied heat and formed fat were divided into fats and carbo-hydrates. All these constituents must exist in the food in the proper proportion during the different stages of animal growth, maturity and decay; and if the necessary proportions could not be found in one article of food, then the diet must be of a mixed nature. If the food contained too much fat or heat producing substance, the surplus must be worked off in some way, and so overtaxed some of the organs. So it also was if the food contained too much nitrogenous matter or albuminoids, inducing a predisposition to kidney complaints, Bright's disease, etc. Milk was more nutritious than beef and was not half so expensive, but it was too liquid for adults. This difficulty was overcome by condensing the milk. The milk of some breeds contained too much fat for human consumption; that of others contained too little, so a mixture would be about right. Milk was the result of a decomposition of tissue; and it was necessary that the cow should be healthy, and her food should not be of a stimulating nature. Filtering through charcoal would rid the milk of bad odors. In speaking of cream as an article of diet, the professor said that its chief richness lay in the portion which formed the butter-milk, but the virtue of the butter fat consisted in the fat being in a more digestible form than other fats. The volatile oils of the cream being attenuated, were readily available, and so the cream was good for invalids, and was the best cod-liver oil that could be procured. Butter was a pure luxury; cream was both a luxury and a necessary, and was an excellent brain food, being more of a lubricant than a stimulant for the brain. Butter was a wasteful and worthless product. For a few cents science could replace everything that was contained in a whole pound of butter. A little education might prevent people from sacrificing nine-tenths of the milk in order that one-tenth in the form of a luxury should be saved; but there was money in it, and there the matter ended. The cheese was the bone and sinew of the milk.

The following officers were elected for 1885: President, Thos. Ballantyne, Stratford; 1st Vice-President, H. S. Losee, Norwich; 2nd Vice-President, H. Parker, Woodstock. Directors.—Division No. 7, R. Hay, Wyandotte. Division No. 8, A. Spiers, Caistorville; Division No. 9, R. Carswell, Ingersoll; Division No. 10, W. Messa, Bluevale; Division No. 11, John Wheaton, London; Division No. 12, T. Cleverden, Strathroy; Division No. 13, J. H. Masters, Cookstown.

A cow giving milk should never be fat. Either the milk is deficient in quantity or quality, often both. The best cows are never fine looking animals, except to the eye of an expert, who can see behind the rough and bony frame evidences of good milking qualities.

From the milk records of the Michigan State Farm, the average annual yield of six Shorthorns was 5,009.16 pounds; of six Ayrshires 8,525.33 pounds, and of two Jerseys 4,919.5.

Mistakes in Judging Dairy Cows.

Prof. Wilson, before his class in agriculture at Edinburgh, makes the following allusion to the system of judging dairy cows at the Royal Show at Shrewsbury.—

There were a great many cows entered, and they were judged by the ordinary mode of judging. Well, sixty of those cows were turned over from the ordinary method of judging to a scientific test of how far this judgment was correct. The first prize under this test was given to a Shorthorn, but not a thoroughbred one, eight years old, and in her sixth month of milking. She milked 51½ lbs., and the milk was so rich that it contained 12.51 per cent. of solids, and 3.26 per cent. of butter fat. They gave her 99.95 points—100 representing perfection. Curiously enough, this cow had been passed totally unnoticed by the judges. The second prize also went to a Shorthorn, not thoroughbred, five years old, and only one month in milk. She milked 44 lbs., and obtained 94.39 points. Now, in regard to the first of those cows, they could assume that she was giving an average, at all events, of five gallons of milk per day throughout the whole period of her lactation—or, say, 1,500 gallons a year. He ventured to say that the average produce of cows on dairy farms was not up to 500 gallons a year. Now, if they could get a cow that would give 1,500 gallons, why stick to cows that gave only 500? The reason was that they had relied too much upon what was called the judgment of men whose judgment could not be relied upon; and they were losing enormously every year for want of applying precise methods of investigation and analysis. The next cow was a thoroughbred Shorthorn, six years old, and four months in milk. She gave 24 lbs., and received 76.94 points. A twelve-year-old pure bred Shorthorn obtained 73.39 points. A Guernsey cow, eight months in milk, gave 20½ lbs., the quality being so good that it yielded 15 per cent. of solids, of which 6.28 was butter fat. A Jersey cow gave 36 lbs., but her milk was not so rich. The Guernsey had been placed second by the judges; the Jersey, which had obtained 81.42 points, had been unnoticed. A Welsh cow gave 46 lbs., and obtained 85.66 points. She had got the first prize in her class from the judges. There were no pure Ayrshires tested, but there was a cross between Ayrshire and Shorthorn. A six-year-old, one month in milk, gave 37.34 lbs., and obtained 81.73 points. A Dutch cow, which had been a prize-taker, and was an extraordinary cow for development of udder, gave 52 lbs.; but the quality was so wretched that any one selling it might have got fined for adulteration. On the whole, those trials brought out the enormous difference that exists between the milk producing powers of animals of different breeds, and even of the same breed, fed and kept under exactly the same conditions.

The prevailing sentiment of the late convention of the New York State Dairymen's Association seemed to favor a reduction in cost of the production of dairy goods, rather than an increase in the price of the products to be sold. The means suggested for accomplishing this result were, a better protection of stock against cold; increasing the production of feed from ground now occupied, by more thorough cultivation and higher manuring; a better selection of milking stock, and more liberal feeding.

Poultry.**The Exhibition.**

BY L. G. JARVIS.

The seventh annual exhibition of the Poultry Association of Ontario, held at Guelph, from the 20th to the 24th of January, was the most successful yet held under its auspices. The display of poultry and pigeons has not been excelled at any previous show. The exhibition was held in the large and commodious drill shed. It also being well lighted, made it still more suitable for the purpose. The birds were arranged in tiers around the building and tiers facing each side in the centre. Every attention possible was paid to the comfort of the birds, and at the close of the exhibition they appeared to be in better health than at the commencement. The President, Mr. Gowdy, and the Secretary, Mr. Murton, did everything in their power to make the show a success, and they were re-elected for the same position on the board for this year.

Light and Dark Brahmas were exceedingly fine, this class containing more good birds than last year. Cochins—Every class well represented. Polands—Very fine. W. C. Black—Less in numbers than usual, but extra quality, prize birds scoring as high as 98½ points. Hamburgs, as a class, better than usual; Golden Spangled, good; Silver Spangled, good, but not up to former shows in the old class. Silver and Golden Pencilled, good. Leghorns—A very large collection, but a great many inferior birds. Houdans—Falling off greatly in numbers, but in quality good. Dorkings—Silver Grey and Colored a splendid display; White, only four coops on exhibition, but very fine birds. Games—A large display and several good birds. The Plymouth Rocks made the finest display in the show, the prize birds scoring from 95 to 98½ points, and several birds were claimed at high figures. Turkeys, excellent; geese, good, one Bremen gander weighing over 23 pounds. Ducks, Aylsbury, two good pens; Pekins, medium; Rouen, very good. Bantams—A splendid collection, prize birds very fine. Pigeons, a fine class; carriers, pouters, tumblers and fantails extra good; other classes about the same as at former shows. Judges—Sharp Butterfield, Sandwich; L. G. Jarvis, London, and H. Cooper, Hamilton. The show will be held in Guelph next year.

FEEDING AND FERTILITY.

To secure healthy and vigorous birds: First.—Be sure the cock birds are robust and well proportioned in build, and a different strain from the hens. Second.—A varied diet; different grains and vegetable. I find a warm mash in spring very necessary. Small potatoes boiled and mixed with shorts once a day, and say once a week you may add a few chopped onions and a teaspoonful of cayenne pepper. They like thick milk. Be sure and have plenty of chaff or cut straw on the floor, and scatter your grain amongst it; this will furnish them with plenty of exercise. Plenty of lime or bone dust and gravel is also necessary to insure health, and for the formation of shell. Following these rules you will not be troubled with feather eating fowls, and with warmth, sunlight and cleanliness, will assure you healthy chicks, plenty of fresh eggs, and fowls worth raising.

The Apiary.**Winter Feeding.**

This is a most important part of the management of our bees, and should be practiced with the greatest care; as, if clumsily or carelessly done, it may cause the death of the colony. This winter many stocks will be out of stores very soon. Owing to the failure of the usual fall honey crop, and the protracted fine weather, those bees which were not fed later than the time usually recommended, will be in want before spring. Bees which had sufficient stores by the fifteenth of September for an ordinary fall and winter, have been found only half provisioned when the winter set in. This because they flew so often before clustering for the cold; when bees fly much they always consume large quantities of food. I strongly advise each bee keeper to make sure at once that his bees, even those which were over weight in October, have sufficient to carry them through. I expect to hear of very heavy losses next spring from starvation. Of the weather none can complain.

Feeding in winter is very simple if properly done. Many attempts have been made to feed honey and sugar syrup in confinement, but the results have not been encouraging. Liquid feeds disturb the bees too much. The bees are not content merely to store it in their combs, but gorge themselves with it, and, being unable to fly, in perhaps five cases out of six, die of dysentery. Candy of different kinds has been tried with varying success, but has proved itself to be the only safe winter feed. Only that, however, made from the best granulated sugar should be used. Of this there are two kinds, viz:—The hard cakes, and the porous sticks. The former have in most cases given good satisfaction, but are objectionable on account of their hardness, which prevents the bees wintered "outside" working on them in cold weather. Nor can they conveniently cluster about this feed. At best, too, only a few bees can reach it.

To the porous sticks I call attention as a winter feed which is safe and convenient, and which may be used by the bees without the aid of heat to soften it. These sticks should be placed across the top bars of the frames where the bees can easily cluster among them. They are sufficiently soft to use at any time, and the bees in the lower part of the cluster are constantly supplied by the crumbs which fall, as those working on the candy break them off. Thus all the bees are fed in the cluster. Any crumbs which reach the bottom will be gathered when it is warm enough for the bees to follow them. This candy is made of the purest granulated sugar, and the sticks are about eight to ten inches long by an inch thick. The ordinary cream sticks of the stores will do if they can be obtained without flavoring or adulteration. But supply dealers should have the proper stuff in stock from this till the middle of April, at a price far below that of the stores.

The greatest care should be taken that the bees are not jarred at all, and that they are disturbed as little as possible while being fed. If possible, wait till a mild spell to feed "outside." Raise the cushion or quilt very carefully, lay the candy immediately over the cluster, and close all up again.

Don't let your bees starve.

The Farm.

Adaptability.

This scene reminds us of the immense areas of wheat we saw when we last took a trip to the North-west. Near Portage-la-Prairie the harvesters were following each other as shown in this illustration, cutting a very fine lot of wheat; the straw was so stiff, clean and bright that it appeared as fine in color as if it had been artificially brightened. We never saw such fine straw either in England or Ontario, and the quality of the grain was excellent for flouring purposes.

The accompanying illustration was gotten up to show how extensively farm operations are

germinate till the following spring. There are several other companies conducting farms on a large scale, and if they prove a financial success there is capital at command to conduct hundreds of such farms.

Near Brandon we saw a crop of oats that surpassed anything we had previously seen for length, strength and clearness of straw. A great difficulty with us in the eastern part of Canada is our wheat and oat crops are so liable to injury from lodging.

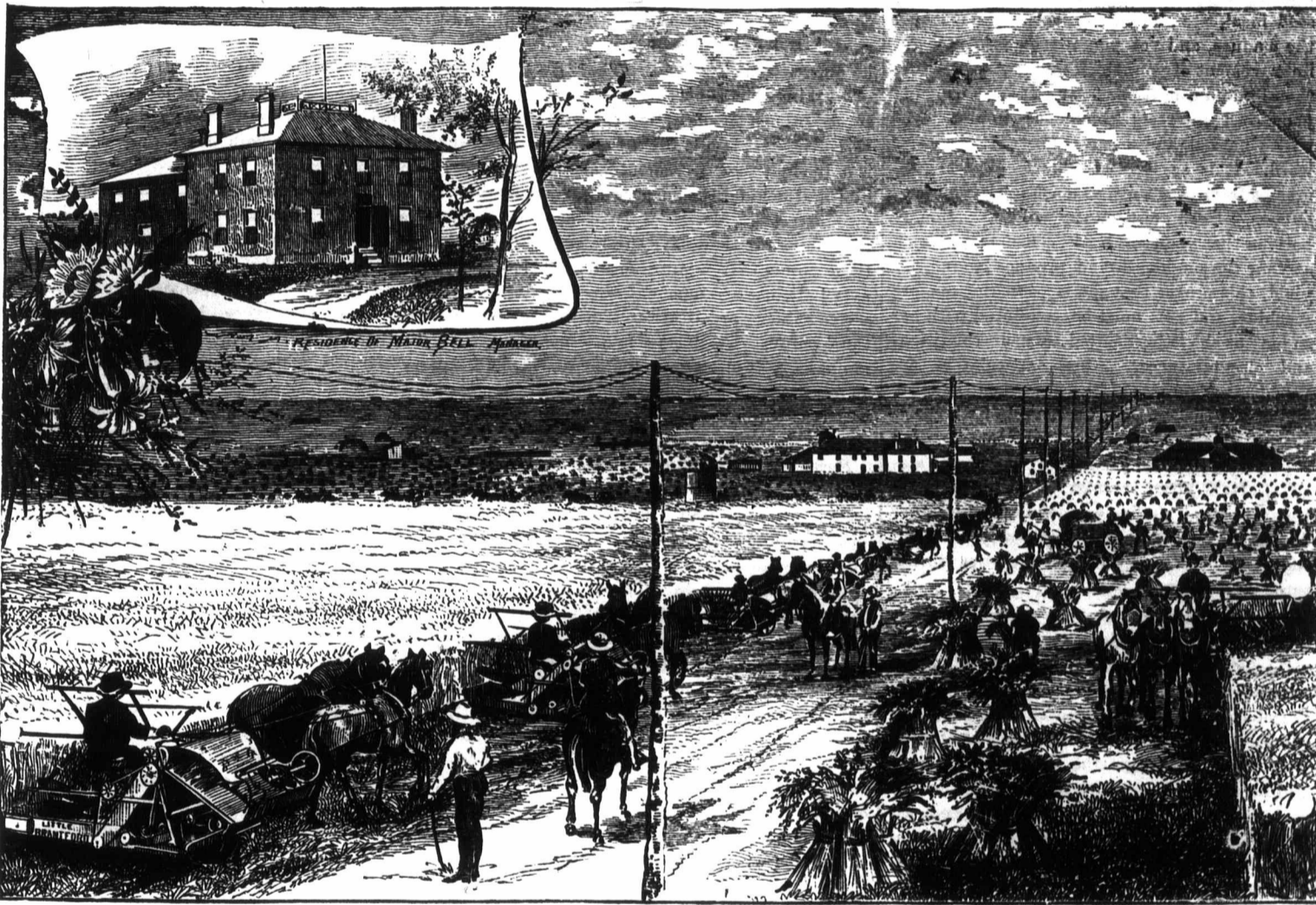
In this extensive country emigrants are granted a homestead by complying with the Homestead Act, which is to reside on the land six months in each year for three years—extra land may be bought at a mere nominal price. If these views are correct, should we in the

Permanent Pasture.

No. I.

This subject may be studied first in its relation to the soil, and second with reference to farm stock. The vital question is, Is your soil best adapted to those grasses which are the most wholesome and nutritious for your stock? It must also be studied in connection with the alternate system of husbandry, and with soiling, but specially with reference to your beef and dairy industries.

The permanent pasture in its relation to the soil presents two aspects, viz.: (1) The nature and treatment of the soil before the establishment of the pasture, and (2) How it improves the soil. The second statement must be summarily dismissed; for although it may be in-



WHEAT HARVESTING IN THE NORTH-WEST.

carried on in the North-west. This scene represents the Bell Farm, at Indian Head, N. W. T., with twenty-five harvesters at work. The harvesters were manufactured by the Harris Manufacturing Co., of Brantford, preference having been given them over all other Canadian or American binders.

This farm is controlled by a stock company, Major Bell being the manager. It is located about 300 miles west of Winnipeg, in the Q'Appelle Valley, and consists of 60,000 acres. In 1884, 7,000 acres were under crop, and 11,000 will be cropped this year. The Company are trying an experiment by late seeding. On the 5th of December they seeded ten acres. The object in sowing late is that the seed will not

east not turn attention more to our stock, dairy, poultry and fruit productions, and less to our wheat as a main resource? Those that adapt themselves to circumstances will perhaps make the most money. The reminder of the army of reapers, the cost of production, the size of the map of the North-west Territory when compared with little Ontario, may perhaps dwell in your minds and cause you to avoid a wreck.

SIR.—Would rather part with any other paper I take than the *ADVOCATE*. I have made more money by taking heed to advice and instruction given in the *ADVOCATE* than would pay the subscription as long as I live. Success to the *FARMER'S ADVOCATE*.

HENRY E. NIXON, St. George, Ont.

teresting to know the relation of the pasture to soil improvement, yet this is not the prime object of the permanent pasture, and even if it were, the subject would then be a department of manuring. Permanent pastures are most profitably laid down on fertile soils. But let it be constantly borne in mind that soil is manure, and the one cannot be studied without reference to the other.

In getting at the first principles of the subject, we can offer no better starting point than the Belgian proverb, viz.: "No grass, no cattle; no cattle, no manure; no manure, no crop." The Belgians have the idea that everything springs from grass, so you see they are one step nearer the truth than we are. Their

amous proverb should commence by saying, "No soil, no grass." Judging from our actions, we seem to imagine that everything springs from our stock. A little reflection will now show what an injury our live stock speculators are attempting to inflict upon you. If you have the soil, instinct will teach you that the soil will produce the grass, that the grass will produce the stock, etc. Now consider the effect of reversing this law of nature. If you buy fine stock that needs fine grass, your stock will deteriorate while you are studying how to raise the grass, and your grass will deteriorate while you are studying how to improve your soil. And yet you wonder why you have such a "poor catch." The better half of England is a permanent pasture, and those fine herds from which yours have sprung luxuriate knee deep on a great variety of the most nutritious grasses, supplemented with oil meal, cotton seed meal, etc., for the purpose of enriching the manure, and yet you presume to attempt improvement of your stock under your existing theories and conditions! If you are a friend of your own interests, commence improvement with your soil, and progress forward, not backward. It is as unreasonable to expect good grasses from poor soils, as good stock from poor grasses. Even granting the wild assertion to be true that your scrub will consume as much as your thoroughbred, and produce an inferior yield, this proves that she is a superior manure machine, and you must be contented with her so long as she is best suited to your conditions and circumstances. Stock speculators are vehement advocates of the permanent pasture, and one of their main arguments in its favor is that it gives an early bite, a late bite, and a delicious bite throughout a long season. It is your interest to retain a breed that will stand the inclemencies of the weather during the continuance of those early bites and those late bites, and the parching rays during those intermediate bites.

The permanent pasture has many other advantages over your existing pastures. It furnishes a ceaseless change of food—a change which is as desirable in summer as in winter, thereby promoting the growth and health of the herd. It is proof against extremes of temperature; for amongst the varieties of grasses will be found some which flourish best under high degrees of heat; others under a cool atmosphere, and the tufts of roots are a mutual protection to the mass. Its highest capabilities are three times greater than those of the ordinary pasture—that is, it can treble the beef or dairy products per acre when compared with the alternate or rotation system of ordinary pastures. It can regularly and systematically be converted into soiling, and can be maintained less expensively than any other farm crop.

The question may here be asked, "How is it that the grazing stock can take from the soil so much nitrogen, phosphoric acid and potash in the form of bone, muscle, and milk, and yet allow the soil to improve?" It is true that the soil in its entirety cannot become more fertile, without top dressings every three or four years, but the roots bring up the inexhaustible stores of fertility from far below; the soil not being exposed to the parching sun, no plant food is lost, and none is washed away by the drench-

ing rains; the atmospheric food supplies are all preserved; organic matter is increased, and over nine-tenths of the substances removed are restored in the manure of the grazing herds. Grass is nature's method of soil improvement, all other methods being artificial. Continuous cropping and manure mismanagement have robbed your soil of its fertility, especially of its nitrogen; continuous pasturing is an efficient method of restoring it to the state of its virginity.

How Agricultural Exhibitions Should be Managed.

Mr. William Kerr, of Harriston, Ont., makes the following suggestions with regard to the management of agricultural exhibitions:—

First.—Farmers should Manage their own Exhibitions.—An agricultural exhibition is, as the name implies, a display of what the farmer can produce from the cultivation of the soil, and those articles of his own manufacture whence he derives his revenue. They also include everything that is necessary to the proper and successful management of a farm. Now, as agriculture is plainly the farmer's business, it is only right that they should manage the exhibitions held for the purpose of furthering their own interests. Men who have been engaged in farming all their days surely ought to know those points that require most attention, and by a judicious arrangement of prizes, strive to arrive at some practical result with reference to those points. The farmer is not such an ignoramus as he is often represented to be, but is an intelligent, well-informed man, quite as competent to manage an agricultural exhibition as some of our sporting friends.

Second.—The Amusement Ring as it now is should be Abolished.—The fine display of live stock, manufactured articles, grain, etc., should afford sufficient pleasure and useful knowledge to any one for the time and money spent attending them. There may be something funny and amusing in witnessing the many foolish and even hurtful amusements that are now becoming to be considered the necessary adjuncts of a successful exhibition, but they are like wild oats sown with wheat, something that should not be there. For instance, what has horse-racing to do with agricultural interests? We might, with as much consistency, turn part of a race-course into shape and hold an agricultural exhibition in connection with the races, offering a good share of the prize money to it. It is time that these horse-races, circuses, and the like should be abolished. If the government were to withdraw its aid from any exhibition indulging in these practices it might have a good effect.

Third.—The Exhibits should be Systematically Arranged.—Were this done, then each could be seen by itself, a comparison made, and the reason why the prize was given. Thus the work of the judges could be better criticized, and they would therefore do their best to make correct decisions. I would also commend the use of catalogues; let everything on exhibition be named and numbered to correspond with the names and numbers in the catalogue. Have tickets printed enumerating department, class, name and number. Let each thing exhibited have one attached in such a way that it would be easily seen, with strict orders to the exhibi-

tor that it was to remain during the exhibition, otherwise the catalogues would be of little value. In order to make the arrangements complete, it would be necessary to appoint persons to be on the ground to superintend the arrangement of the exhibits, and also to have all entries made a sufficient length of time beforehand to enable the managers to make needful preparations. At township exhibitions especially, there is a great want of order. The exhibitor disposes of what he has brought out to suit himself, without much regard to order or effect. To be sure, there are certain portions of the ground allotted for the different departments, horses having the right of way anywhere, and there the arrangement ends. The way in which the horse exhibit is kept locked up at the larger exhibitions is the cause of much dissatisfaction. Why is it that the only chance of inspecting this exhibit is by a constant attendance on the ring where they are judged, while all other classes of live stock can be seen at any reasonable time. In order to remedy this defect, the directors should make a regulation requiring the stables to be open to public inspection during certain hours each day of the exhibition.

Fourth.—One Competent Judge, at least, should be Appointed for Each Class.—Judging, confessedly, is the most difficult part of the exhibition to manage. Good judging is indispensable to success, while on the other hand, bad judging, whether arising from incompetency or mercenary motives, will most assuredly end in failures. As a general thing, especially at township and county shows, the directors are among the principal exhibitors; they arrange the prize list, and they appoint the judges, who are, as a rule, personally known to one or more of the directors and are selected from a distance more or less remote from the place of exhibition. Should any one of them fail to arrive, his place is filled by some one picked up by the directors in their extremity, who may be, but most likely is not, competent to discharge the duties of his position. The directors should select unbiased men, who have a thorough knowledge of their work, when the object of the society is that the best should win. The judge whose knowledge is limited concerning the class he is to decide about, although he may give his decision to the best of his ability, will certainly make wrong awards. Thus much harm is done, for the exhibition suffers for want of confidence in its decisions, and inferior stock is advertised as prize winners, to the injury of the owners of better and more valuable stock, who, knowing that they are entitled to prizes, are apt to become disgusted with the way things go, and the exhibition will be minus their exhibits in the future.

The one-judge system is coming into favor. It was tried in one or two classes at Toronto, and worked well, for in this way the responsibility of his decisions would rest upon his own shoulders. He would feel that he was selected to fill the position because of his ability, and he would endeavor to uphold his credit in making just awards.

Why should not judging be made a profession? And before any person could become a judge, he would have to undergo some examination which would be a test of his knowledge.

This examination could be held under the same auspices as the agricultural examination now held. Then, instead of the judgeship being a complimentary position, there would be a regular staff of professional men who would receive sufficient remuneration for their services.

Fifth.—Some rule for judging to be adopted.—In the giving of prizes to the fattest animals, one of the objects of the society is lost sight of, that is, giving encouragement to the raising of stock in such a way as to yield the greatest profit to the farmer, and at the same time improve his stock. It has become almost necessary to spoil an animal for breeding, and we might say also for eating purposes, in order to secure a prize. It is found to be anything but profitable to feed in this way, and what no ordinary farmer would attempt. There are shows for fat stock, and that is where they should be exhibited, and not turn agricultural exhibitions into one. It is the best animals we wish to see win, and these are not necessarily the fattest. Therefore there ought to be some well defined standard for the guidance of judges, especially for live stock. At present every judge has his own opinion, and accordingly approves or disapproves, just as the animal comes up to his own standard of judgment, there being nothing settled or binding apart from this state of affairs. The adoption of a scale of points would seem to meet this difficulty. It could be printed on cards, and a sufficient number given to the judges, to enable them to give each exhibitor one and keep a duplicate. By this method they are in a better position to form a correct judgment. The rule could be easily adjusted for all departments besides live stock.

Now, we have men whose business is agriculture, managing exhibitions in their interests from which everything is excluded but what properly belongs to it, and where every department is arranged systematically. The judges will be men thoroughly posted in their business; they will receive adequate compensation for their work, and will have some rule to base their decisions on.

This state of things would do away with the oft repeated statement that is often made, that the exhibitors do not receive the amount of favor and support at the hands of farmers generally that they ought. Unless such vital reformation in the management takes place as will establish public confidence and insure protection from being duped, it requires no prophet to predict the downfall of all smaller exhibitions.

You are a slave because you leave all your chores until your regular day's work is done.

The U. S. Northwestern and Southwestern railroads have refused to comply with the demand of farmers and business men with regard to a reduction of transportation rates on grain. The complaint is that the existing low prices do not warrant high rates; but the railway authorities contend that their freight charges are already so low that the railroads can hardly live. This contention conflicts with the Wall Street reports, which announce large dividends for the purpose of booming up the price of the stock. The farmers and business men meditate waging war.

Are the Market Prices an Index to the Nutritive Value of Foods?—Wheat for Stock.

We have frequently been asked if it paid to feed wheat to stock at the prices now ruling. This question involves a principle that applies to all food stuffs, an explanation of which will enable the farmers to act intelligently in all his feeding operations. In a natural state of affairs the market price is a fair guide to the nutritive value, for ordinary experience has taught the farmer the most valuable foods, but artificial influences often interfere, so that it would be advisable for him to study a more accurate standard as shown by the analysis of these foods. But he must not suppose that a mere knowledge of the analysis will be of any practical use to him; all that this can possibly do is to enable him to acquire the practical knowledge more expeditiously and accurately.

English feeders do not allow themselves to be influenced by the fluctuations of markets; they thoroughly understand the science of cattle feeding, and are governed by the nutritive values. They do not permit any prejudice to stand in their way. They take the manurial value of the food into account. On the other hand, our farmers are so prejudiced against new systems that it is quite possible they would continue in the old rut even if all grains sold at the same price.

Any food may be taken as a standard by which all others can be measured. Let us take oats at Toronto prices at the beginning of the year, viz., 31 cents per bushel, and let us make the nutritive value correspond with the market price; then the following table will show the analysis and relative value of all the grains mentioned in the list:—

	Albuminoids (Per cent)	Carbo-hydrates (the carbohydrates) Per cent.	Fat Per cent.	Market Price Per bush.	Market price per 100 lbs.	Nutritive Value per bush.	Nutritive Value per 100 lbs.
Oats...	9	43.3	4.7	31	91	31	91
Wheat...	11.7	64.3	1.3	75	95	65	108
Peas...	20.2	54.4	1.7	58	96	82	137
Barley...	8	60	1.7	60	125	43	90
Corn...	8.4	60.6	4.8	45	80	57	102

It will be observed that those grains which contain the highest percentage of albuminoids have the highest nutritive value, and the fat has a higher value than the carbo-hydrates. It must be understood that the constituents mentioned in the table have reference to the digestible percentage of the grains. The practical usefulness of this table is that the farmer can see at a glance which grains can be fed the most economically, and when it will pay him to sell one kind of grain and buy another.

However, the actual values which the farmer may get from these foods may differ widely from the market or the nutritive value. In order to make the actual value correspond with the nutritive value the feeding must be done on correct principles. For example, it will not do to feed peas with wheat, for they are both high in albuminoids; but they may be fed with corn or barley, and wheat and oats do well together. Foods rich in fats and carbohydrates should be fed with those rich in albuminoids.

The question may be asked, Why is wheat nutritively so low compared with its average

market price? This arises from various causes. It is the popular article of diet for man, mainly on account of custom, but largely also because it contains its constituents in the proper proportion for the sustenance of the different parts of the body, and is therefore neither too heating nor too cooling, neither too binding nor too laxative. Oats are little inferior to wheat in this respect. Fed alone, wheat is a more complete food, for man or beast, than any other grain, but the skillful feeder can mix other grains so as to produce the same results. Foods that have a heating tendency are those which have an excess of fats and carbohydrates, the latter being composed chiefly of starch. The albuminoids are somewhat neutral, and the cooling property of foods is dependent upon the percentage of minerals which they contain. In order to show the relative cooling effects of these grains, we will give the analysis of the mineral constituents, viz.: Oats, 2.7; wheat, 1.7; peas 2.4; barley, 2.2; and corn, 1.5 per cent. The heating effect of corn is now made plain, and although oats have a large percentage of mineral matter, the high percentage of fat overcomes the cooling tendency.

The greatest difficulty that the feeder has to contend with is the regulating of the ration so as to prevent its being too astringent on the bowels. This depends, within certain limits, more upon the animal than upon the food, so that every feeder must be guided by his own experience in this matter, remembering that succulent foods are the bowel regulators.

With regard to the mode of feeding, wheat should be ground for stock and thoroughly mixed with other foods. If grinding is not convenient, then it may be soaked, and if fed in small quantities with other grains, it may be allowed to sprout a little. In any of these forms wheat is a valuable food for all classes of farm stock, and has great forcing properties, but the animal should become accustomed to it by degrees.

Perhaps our readers would be better pleased if we had given the views of practical feeders instead of going so elaborately into the subject; but it must be remembered that practical experience is very limited, and besides, the opinions of these feeders differ so widely that no conclusion can be arrived at. Many absurd ideas of practical feeders with reference to wheat feeding have gone the round of the agricultural press, some having even contended that wheat may be substituted for oil cake or cotton seed meal. Many a delusion has arisen from the writers quoting from English authorities, who, in speaking of nutritive or feeding values, always take the manurial value of the foods into consideration—an idea hardly ever thought of by our agricultural writers or our farmers. The novelty of the thing has undoubtedly urged many of our writers to advocate the feeding of wheat to stock, but the above table does not support their fancies, and if it can be economically fed at present prices, it must be much more skillfully used than is usually the case with the feeding of other grains.

This article does not settle the question as to whether it will pay to feed wheat to stock at present prices; but it settles this, that it cannot be fed so economically as other grains.

How a "Corner" is Worked.

The speculators in the grain markets often engineer a rise or a decline in prices, almost entirely irrespective of the supply on hand or even of the crop prospects. Corn or wheat will frequently be quoted several cents per bushel higher for one month's deliveries than for other months. The newspaper reports may give the cause of these wide fluctuations as a "corner," a "gamble," or the efforts of speculators. Hence it may interest our readers to know how a "corner" in grain is worked.

Corners in grain markets are only possible when there is an excess of short sales. And, if one understands the theory and practice of short sales, he can readily understand the working of a corner. In regular business, when a man sells grain he actually has the grain to deliver, but in speculation a man sells what he has not, with the hope of being able to buy and deliver the goods at a cheaper figure. But every bushel thus sold must be bought back at some figure, higher or lower, before the transaction is or can be closed. And right here is where the mischief comes in. In regular business when a man sells anything that is the end of the transaction, but every speculative sale involves another buying transaction of equal size and amount. And this is called "selling short," because in such deals a man agrees to deliver what he does not yet own, and hence he is short or minus that amount of actual stuff and is compelled to buy it at some price. He can buy it the next day or he can defer it a month or longer if he chooses. The man who sold September corn short in August, must buy back all that he sold before the close of September, or pay the price difference in money.

During last August or before, an immense amount of corn was sold short in this market for September delivery. The price of corn at that time was thought to be higher than it would be when September came round. Wheat was so low, and the promise of the new corn crop was so good, that traders concluded there would be a drop of at least ten cents a bushel, and so they all rushed in to secure a part of the prospective profits. And if the market had been left alone they would have come out all right. But after millions of bushels had been thus sold for future delivery, some parties put their heads together and bought up all the cash corn in the elevators and then went into the market and bid up the price, taking all that was offered and still bidding higher for more. Very soon some of the shorts saw the market going against them and began to buy back at a loss what they had previously sold. This, of course, increased the number of buyers and sent the market up faster. After the boom was fairly under way no one dared to sell short any more, and the only corn obtainable after that point was reached was in the hands of the parties who were running the deal; hence they were at liberty to put what price upon it they pleased, provided they bought from day to day all the actual corn which came in over the railroads, and all the speculative corn offered. The entire corn supply, therefore, was locked up by the parties running the corner.

Those sellers who filled in or bought back what they had sold before the price got too high, escaped from the trap set for them with but little loss, but many others got mad and

vowed they would not buy until they got ready. The parties running the deal could not force the delinquent fellows to buy until the last day of September, but they could force them to put up margin money enough to more than cover the difference in price between the low point and the high. Hence a corner always settles itself after a while into a tussle between the victorious longs and the mad shorts, and in this contest the price can be put up to any figure the first party decides upon. The situation and the deal are entirely at their mercy, and the shorts must eventually settle at the price fixed for them by their antagonists, or appeal to the Board of Directors to come to their rescue and fix a marginal price, which appeal, in this case, was successful, though it is not always so. Such, in plain and untechnical language, is a brief description of the famous corner of September, 1885.—[Chicago Journal.]

The value of the agricultural products of the United States for 1884 is estimated at about \$4,000,000,000.

It does not pay to overload the soil with nitrogen any more than to eat more food than will be easily digested. A sort of soil dyspepsia may be induced by surfeiting with nitrogenous manures—so say the experiments at Purdue.

The average period of usefulness of street-car horses in Chicago is about six years, while in New York it is only about three and one-half years. They usually give out first in their feet, and are sold to farmers, who can work them profitably for years on their farms and soft country roads, especially if allowed to go unshod or shod only with tips.

Mr. Ives' plan of cutting the straw as it is threshed commends itself to farmers, says the Philadelphia Press. It costs but little, and there is much gain in space. Anyone who has fed cut straw or hay knows how superior it is to the long uncut fodder. It pays to cut straw for litter. The quality of the manure is improved, which is an important item.

The *Western Rural* says:—The sheep is not subject to inflammatory diseases, to any great extent, because of the small development of brain. But it is very susceptible to diseases of the digestive apparatus and to the attack of parasites. The reason of the former is that the digestion of the animal is immense. The machinery is worked until it is weakened, and unable to perform its functions, or the organs of digestion are unable to resist the attack of disease germs or parasites. In winter time, or toward spring, especially, indigestion in sheep is a fertile cause of complaint. It shows different symptoms, and often misleads the flockmaster into the belief that his flock is suffering from some form of contagious disease. The fact is that the sheep have been fed on dry food for months, and the digestive apparatus has been handling such large quantities of it—doing the very hardest kind of work all the time—that the apparatus breaks down, just as a machine that is run to the limit of its speed, will in time break down. If in such cases the sheep are taken wholly or partly off dry food, and fed roots or oil cake in pretty plentiful quantities, the apparatus will get a chance to rest, and will be lubricated, as it were, and resume its functions.

Garden and Orchard.

Small Fruits.

BY W. W. HILBORN.

This is the time of year to make your plans for spring planting and for selecting varieties of small fruits. Few farmers have plants of their own growing, hence it becomes a question of great importance to know where and how to procure plants that can be depended upon. Many readers of the *ADVOCATE* have given their orders to agents for high priced plants, illustrated by fine colored plates of fruits that are "the largest and best in every way, and requiring little or no work to grow them," only to be disappointed.

It so often happens that the agents know comparatively nothing about fruit from experience, hence are liable to make many mistakes, not from a desire to mislead, but being unacquainted with most sorts, are very apt to extol the merits of some new, high-priced variety that has not been tested.

The most satisfactory way to procure plants that will give the best results, is to deal directly with some responsible nurseryman, of which there are quite a number. You can find them by consulting the advertising pages. By writing to them you can get all the information desired. It is well to send for quite a number of catalogues, study them, then make your own choice whom to deal with. If you want but a small quantity the plants can be safely sent by mail, but wherever practicable it is perhaps better to order by express. Always choose well-tested kinds that do well in most places, and you will rarely go astray.

BLACKBERRIES.

One of the most neglected of the small fruits is the blackberry. It is doubtful if any except the strawberry will produce more fruit to a given space, if rightly grown, and suitable soil and varieties are chosen. I have had the best results on a good, strong, clay loam, well underdrained. Plant in rows seven to eight feet apart, and three feet apart in the row. When plants get about one foot high the first season, pinch back the same as you do with raspberries (see last No. of the *ADVOCATE*.) You thus form a good hedge row, not letting them get too thick together in the row, after first season, say from six to twelve inches, and by keeping them pinched back every season they grow very strong and stocky, and require no stakes to hold them up.

The first season, potatoes, or any vegetables that mature early, may be planted between the rows.

If the blackberry plants are kept well cultivated until some time in July, they will not require any cultivation after that time, and the wood will thus have time to become fully ripe before fall, which is required to make them stand the changes we have in the weather during winter and early spring. If they are taken good care of for two seasons, they will give good crops for several years, just by giving them plenty of mulch, without any cultivation, but the plantation will not last as long as if kept worked. Cut out all old wood every fall.

THE BEST VARIETIES.

THE SNYDER.—I have grown a number of kinds, but have only found one that is reliable,

that is the Snyder. The fruit is of medium size splendid quality, most hardy of any, and wonderfully productive. It does not send up many suckers, hence is easily kept in rows without getting too close together.

TAYLOR'S PROLIFIC is larger than the Snyder, and in some localities does well, but is of no use with me. In the vicinity of Owen Sound it is ahead of all others. Wherever the snow will cover it through winter, it is safe to plant it.

KITTATINNY is very large and productive, but is not hardy enough, except where the peach will succeed.

EARLY HARVEST is a newer variety that is being "pushed" by some of our American friends, but it is too tender for us in Canada.

STONE'S HARDY is very hardy, but has not been fully tested as to productiveness, but think it will not be as good as Snyder.

Of the new varieties now being offered for sale, none of them have been fruited in Canada to any extent.

There are very few farmers who try to supply their tables with small fruits. They say they have not time to grow them, but they will live on pork and other food that costs three times as much money to produce, and is far less nutritious.

The most successful way to learn to grow small fruits is to plant out a few of the best well tested kinds, and give them as good care as you can; you will then soon learn by experience the treatment required to make them a success in your locality. The farmer who will not plant until he learns how to grow them, will never learn, as it is only by growing them that he can learn the ways best adapted to his requirements. There can be much useful information gained by reading articles on the subject, but until you begin cultivation you will not so fully understand what you read in regard to them.

Our Native Evergreens.

BY HORTUS.

It is a fact of great importance, and for which we Canadians are not sufficiently grateful, that the Dominion of Canada is blessed with the most valuable evergreens for their different uses in the world. While many useful evergreens are imported from other countries, none equal in general qualities our own. What pine is known that is equal in point of value to our white pine? What cedar is used, or could be used, for the many different purposes as our own native white cedar? Look at the graceful branches and delicate foliage of the hemlock, a tree that for ornamental purposes alone stands almost without a peer. No wonder our forests are disappearing before the sharp axe of the busy lumberman. No wonder great rafts go sailing down the rivers and lakes on their way to be despatched to foreign countries. We have been, till now, too indifferent to the beauties and usefulness of our native pines and spruces. True, a little planting has been done through the country, as occasionally we now observe a hedge and a row of trees, or an avenue of pines, here and there, a small clump of spruces, or a belt of cedar. But we do not observe amongst the farmers as a class that love or desire for evergreens which should characterize them as a body. We are told they have

no time; they must attend to their ploughing or seeding; the stock requires so much care, and many other duties of the farm take up their time, so that attention is never paid to planting trees, particularly evergreens.

Many readers can call to mind the shelter and comfort experienced on a stormy and cold day when passing the southerly side of a belt or thicket of evergreens, or when they are opposed to the wind. We are sure that all that is required is the attention of many to be drawn to the subject, and they will begin planting. By doing this they will reap the benefit of sheltered fields, affording cosy nooks for stock to repose in in summer heat, and from piercing winds, besides setting the example to their neighbors. People are very imitative of improvements, and none more so than farmers, and when one plants groups of evergreens around his home, hedges and shelter belts, improving his place, so far as appearances go, at least a hundred per cent., he will have many who will follow his example in their particular locality. Our object in this article is not so much to repeat the oft told tale of the importance of planting trees, as to enumerate the native varieties, and to give such information respecting them individually as will be useful to those intending to plant.

First, our common pine (*Pinus strobus*), or white pine. Very little may be said about this valuable tree, as it is spread all over the country, and few are so ignorant as not to recognize it at a glance. This very commonness, however, begets ignorance and neglect of its great usefulness for planting around the farm. More care is required to transplant it than almost any of the others but the planter will always be successful if he minds to keep the roots damp and covered when collecting them for planting. It has very fine thread like roots, and but few of them; it is necessary therefore not to break any off. The pine grows well on banks and cool places, particularly those of northern exposure, also in good lands and sandy places. It may be met thriving over a greater extent of country, and in all classes of soils, than almost any other tree. The best time for securing young plants is the latter end of May; any time in May, however, is safe to plant. It grows rapidly, and thrives in company with other trees. The red pine, or as it is commonly called, Norway pine (*Pinus resinosa*), is a strikingly handsome evergreen. In old trees the bark is of a reddish grey tint, and in large flaky scales, which makes it of peculiar interest. The leaves are 5 to 6 (two in a sheath) inches long, and of a pleasing dark green hue. Young trees of this variety are of great interest, and form conspicuous objects in any collection. It thrives on dry gravelly soils, growing quite rapidly. It is becoming scarce, as little or no effort, that we are aware, is made to propagate or preserve it from extinction. It may be termed a tree belonging to the picturesque class, and useful for planting for landscape effect.

We next come to the yellow pine (*Pinus mitis*), a medium sized tree growing generally in sandy or dry soil, furnishing a very useful firm grained wood. As pines vary considerably in appearance, some looking more robust and luxuriant, while others are less pronounced in color, and of a stunted, scrubby nature, it might

cause persons to think there were many different varieties, but this difference may be explained by the locality or situation and other natural causes having an effect on the tree where it is growing. *Pinus Bankman*, or northern scrub pine, and *Pinus rigida*, or pitch pine, may be found growing in places in Canada. The three we have mentioned at first will be found to comprise the bulk of our pines. Collections of pines, of which there are several to be found in the States, are called *Pinetums*, and here we may be allowed to advise the government or private persons to set about establishing such a collection. To our native pines may be added the Austrian pine (*Pinus Austriaca*), the Scotch pine (*Pinus sylvestris*), the Swiss or stone pine (*Pinus cembra*), and many of those particularly interesting and valuable ones introduced from California and British Columbia. The Austrian and Scotch Pine are now very common through the country, being introduced through the nurseries. They are very valuable for planting, each possessing desirable qualities peculiarly their own. A very unique and quaint little tree is the *Pinus mugho*, and of particular value for planting around rocky places, or particular points in gardens or cemeteries. It will be found a very interesting study to observe the characteristics of our different evergreens, noticeably the pines. All grow freely from seed borne in the cones, which may be sown in shallow boxes, or beds protected by boards on the outside. The growing from seed we wish to say more about at another time, and return to the subject of our native trees.

The next important group are the *Abies*, or spruce, of which in Canada we have three distinctly native, viz.: the *Abies Canadensis*, or hemlock spruce, generally termed simply hemlock. *Abies nigra*, black or double spruce, and *Abies alba*, white or single spruce. The hemlock is the most valuable of the spruces in regard to timber and the wood it furnishes, growing to greater dimensions than its relations; it consequently affords more wood.

(To be continued.)

Mr. B. Gott, an extensive fruit grower in Lambton County, makes the following reference to the varieties of apples which farmers should plant: - In our experience we find that an assortment of a moderate number of varieties of summer, autumn and winter kinds, but not too many, is best for ordinary planting. Most of our planters make a grand mistake in selecting too many sorts instead of confining themselves to a smaller number of well tried kinds. If we were asked to make a selection of good apples for ordinary family use in this country, we would without any hesitation say, plant with the greatest confidence of satisfaction the following: For summer, Tetofsky, Red Astrachan, Early Harvest; for autumn, Duchess of Oldenberg, St Lawrence, Colvert; for winter, Baldwin, N Spy, R. I. Greening, Wagner. These ten good sorts cannot be beat for our conditions. The best sweet apple is Talman's Sweet and the greatest keeper is Ben Davis or Am. Golden Russet, and the best apple for dessert is Fameuse. On the whole, this I consider to be the best and most profitable list of good apples that can be planted in this country.

History of the Cabbage Seed—One of the Commission Kind.

Family! Why? I have none. I am a mongrel I will explain. I was born in a vegetable garden located on the outskirts of a town in western New York. When first I was able to observe, I saw about me many plants of cabbage of different varieties, all were bearing seed, and I suppose I was then hybridized with them all, and in this way I became a mongrel. We are all first cousins, a motley crew in seed.

After a time I was with the rest harvested and sold by the gardener to a commission seed merchant. From that day my history has been an eventful one. I have travelled like a Gipsy. The commission seed merchant mixed me up in a lot of old seeds of cabbage, taken from paper packets which he opened, and then filled us up into new flat paper bags, the paper of which was stiff as sheet tin; thus I found afterward was to deceive the public, to give an appearance of quantity within.

I soon made the acquaintance of my companions and we frequently exchanged views. Poor things, I became quite attached to them, and shed many a tear over their sad lot, never expecting I would have a like appearance. Many of the old "residents," as they called themselves, were poor, consumptive seeds, and upon comparing notes, not a baker's dozen were from the same style of cabbage; they were a collated lot, the commission man was a collator of seeds. He bought them as he would buy railroad ties; he assembled them, to use his own phrase.

Well! we were sealed up, I say, and with other papers put into what is called a commission seed box, a flat wooden case to lay on a store counter.

Into a box with us cabbage were put a very large number of seed packets of other varieties of vegetable seeds, and as I was afterwards informed by them, of all ages up to eight or nine years. Some claimed to be old enough to vote. Some bore many internal marks and fly specks. Like old soldiers they carried the scars of their numerous campaigns.

Well, we were shipped on and exposed for sale on the counter of a store in a town in Southern Alabama. Five hundred packets were in the box, and the country people who came to buy general store goods mauled and fingered us over and over throughout the spring and summer. The purchase from our box amounted to about 100 packets, 20 per cent. of the entire number of papers.

During the hot, damp weather we perspired fearfully, and no wonder, as great beads of condensed moisture hung on the brick walls of the store; this is the case always in the Cotton belt, during the months of November, December and January.

My more delicate companions sank one after another under this exposure, till one half were not alive. Their germs swelled from the moisture and they died prematurely.

In September the commission agent came along and paid the merchant his percentage on the one-fifth part sold and ordered the four-fifths back north to the commission house.

Here the old box was emptied and put through a process which turned it out like new; it was soaked and washed, and scraped, also varnished and relabeled. Oh! what a transformation was made in that box. All of us packets, which were not torn, were put back into our old apartments. The torn and much soiled packets were ripped up, the contents to be used as bulk seed. The 40 per cent. deficiency from sales, supplied out of other boxes, then off we were sent the second year to a town on the Carolina coast. This merchant sold about the usual proportion, 20 per cent. of our number. I often wished I would be sold and planted, any fate being better than dragging along in this way. The heat and dampness here was as bad as in Alabama, and my companions less able to withstand it now with weakened constitutions.

In consultation with my fellow seeds in the packet, I was pained to find how many had passed away after the second season, not one-third of our original number were able to answer

roll call, but we must not forget some were really dead when I joined them.

Again we were sent north to be rejuvenated, which was done most thoroughly, as only commission seedmen know how (undoubtedly they are the greatest rejuvenators extant), and again shipped off for a third season in an apparently nice, new, fresh box, this time to Iowa. I was really ashamed to be thus travelling about under false colors. I said to myself, surely this my third year will be the final one.

Another season of expectation and blasted hopes, and at last came the agent and sent us home. I so often wondered why I should always be a member of the 80 per cent. left unsold, left to waste my vigor in travelling over the country.

The fourth year we were sent to Texas, we brought up at Galveston. This made 10,000 miles I have travelled since I became a commission seed. We were displayed in our freshly prepared box with new show labels for the fourth campaign, the community little thinking we were old stagers, but we laid low for black ducks. Of those who picked out seeds in the spring none happened to light on me. Oh! how we did sweat through the summer. In the autumn I was fortunately one of the 20 per cent. sold and planted. Of all the seeds out of my packet and a few more, perhaps one-tenth of the original number, were the only ones that sprouted. I have often wondered how many years it took to complete the sales of those papers which constituted the original assortment in the box when I entered it four years before I was planted.

I think I can safely say I believe some of them hung on quite four years more. Indeed I have been told that commission seed packages have been known to visit every State in the Union before being sold.

I could not possibly have given a kick if kept another year, and as it was I sprouted so slowly and so weakly as nearly to be hoed up, and after being recognized as some kind of a cabbage, or Colio repollo, as they say here, I was so puny from my weakened constitution as not to be able to resist any extremes of heat, rainfall or cold. I just struggled on, eking out a miserable existence, and producing—well, some of the Mexican gardeners say I am a Variedad de col, some a Verde breton, some a Nabilcol, I don't know myself, how can I when I consider the circumstances of my birth, for I am a wanderer and a mongrel?—[San Luis Potosi Times.

Mr. A. McD. Allan, an experienced fruit grower, of Goderich, Ont., recommends the farmers of his section to set an apple orchard, composed of the following varieties, and in about the proportions named:—Duchess of Oldenburg, 10; Early Harvest, 2; Fall Pippin, 2; St. Lawrence, 3; and the balance in the leading winter sorts, say, Baldwin, Greening, Northern Spy, Ribston Pippin, American Golden Russet, Wagner, and King of Tomkins County. He regards Ontario as the best apple country in the world, but deplors the state of our plum orchards, observing that the curculio and black knot have proved fatal to many of them. He hopes, however, that these enemies will soon vanish. He recommends the following varieties:—Coë's Golden Drop, Yellow Egg, Lombard, Smith's Orleans, Braishaw, and Washington. The fruit growers of Huron county bear the reputation of being able to name all the varieties correctly in their shipments. This valuable knowledge has the tendency to stimulate our fruit growing industry.

I consider the ADVOCATE the best agricultural journal in the Dominion, and it should be read by all tillers of the soil.

ROBERT SCOTT, JR., Prospect, Ont.

Veterinary.

Lameness in Horses.

This affection is an evidence of weakness or disease in the limbs. The first step to be taken is to find out the lame limb, which is not always easy to do, especially in the hind legs. Lameness in the hind leg may often be mistaken for that in the fore, and *vice versa*, the right hind being frequently confounded with the off fore. This is called cross lameness. In order to detect such cases have the horse trotted towards and from you. When the animal is lame on both fore feet the affected limb is often difficult to detect; the horse will be no nodding or dropping in this case, but the animal will step short and stilty, like a cat on hot bricks, each foot being suddenly planted on the ground and carefully elevated again, while at the same time a rolling motion of the body will be observed. When the lameness is in both hind legs, the steps will also be short, and will be best noticed when you stand at the side of the horse as he is trotting past you. This symptom must not be confounded with stiffness, old age, or fatigue. Lameness is shown both during repose and during movement. In some instances it is more readily observed when the animal is standing still, in which case the horse will point or elevate the foot which is suffering pain; if both feet are affected, he will do so alternately. If he is forced to move, the degree of lameness does not seem equivalent to the amount of pain expressed. In other instances the patient will stand perfectly firm, although in the majority of cases the position of the lame limb is more upright than that of the sound one, as if he feared to put as much weight on it—this is called knuckling—but when he is made to move, he will instantly show lameness. In still other cases he will come sound out of the stable, but when set to work, the lameness becomes manifest. There are other instances in which he leaves the stable lame, and on exercise the lameness partially or wholly disappears. Some show lameness only when suddenly turned around in the space covered by their own length. If the lameness is in the hind leg he may stand with it either flexed, or with the foot off the ground altogether.

When the lame limb comes to the ground during progression, the animal suddenly elevates that side of the body and drops the other side. If the lameness is in the fore limb, the head as well as the fore part of the trunk is raised from the lame and dropped on the sound side. This is called nodding. If the lameness is in a hind limb, the quarter of the same side will be elevated and that of the sound side thrown downwards and forwards in a jerking motion, the head being moderately steady if the pain is not great, but jerked if acute.

There are positive and negative signs which will be a guide to you; for example, if there is heat, pain, or swelling in any part of the limb, the evidence is positive that the cause is in such a part; but if, on the other hand, there are none of these symptoms, we must conclude that the cause is deep seated in the foot or in a part thickly clothed in healthy tissue. This is negative evidence.

Lameness may be caused by a strain of a ligament, of muscular tissue, or of a tendon, by

fractures, by diseased bone, or fibrous cartilage; also by morbid conditions of the skin, tumors, plugging of the arteries, accidents, pricks in shoeing, treads, wounds, ulcers, rheumatism, and reflex nervous action, as in diseased liver.

A SPRAIN

or strain is violence inflicted upon any soft structure, with extension, or often rupture of its fibres. When a muscle is strained the injury is succeeded by pain, swelling, and heat, with loss of function. An inflamed muscle can no longer contract; hence, in some strains the symptoms resemble those of paralysis. The swelling of an inflamed muscle is often succeeded by atrophy, or shrinking of the muscle, caused by a lack of nourishment, as in sweency; and sometimes we have fatty degeneration of its fibres. In the latter case, when microscopically examined, the sarcous elements are replaced by glistening oil particles, so that the functional power is completely destroyed. These conditions are often due to an inflammatory exudate pressing on the tissue and interfering with nutrition, and for this reason the sooner the exudate is removed the better.

TREATMENT.—Apply cold fomentations for a few hours, which must be succeeded by warm and accompanied by slight irritation, which can be accomplished by applying a liniment composed of methylated spirits, 2 oz.; tincture of arnica, 2 oz.; water, one pint; applied after fomenting with warm water. It may be required to succeed this with stronger irritants, such as tincture of cantharides, or cantharidine ointment. Give a purgative in the first stages, and a cooling diet, followed by good nursing.

Sheaves from Our Cleaner.

Good soil, good crops; good crops, good stock. The hardest work the farmer has to do is to think.

Never heed what you make; it is what you save that counts.

The farmer who performs his work the easiest often accomplishes the most.

It is better to labor than to wait until your neighbor offers to help you.

It requires no science to know how to exhaust your soil, it is in the recuperation where the science comes in.

If you boast so much about your farmyard manure, saying that it is better than all "artificial" kinds, why then don't you save it?

During the past 40 years Sir J. B. Lawes, amongst many other experiments, has been testing the wheat yield on an unmanured plot, and found that the decrease averaged one quarter of a bushel per acre per year. This decrease can only be accounted for by reason of a loss of fertility occasioned by the crops of wheat.

Now in many settlements of this province the land has been continuously cropped for about 40 years, and whether or not the yield of wheat has not dropped off 10 bushels per acre during that time, or one-fourth of a bushel per annum, even by a liberal application of manure, let every farmer be his own judge. Let the manure balance the spoliation of our climate, caused by the destruction of our forests, and let us consider that our decrease is going on as rapidly as Sir J. B. Lawes' unmanured plot. Does this not prove that it is time for us to begin to consider how we shall restore the fertility of our soil, or at least prevent its further tendency to exhaustion?

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 columns. 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.

Voluntary correspondence containing useful and reasonable information solicited, and if suitable, will be liberally paid for. No notice taken of anonymous correspondence. We do not return rejected communications.

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.

SIR,—I have a mare about 10 years old that as soon as the cold weather comes on, and during the winter months, continually bites and licks herself, mostly on the shoulders, and back to the tail there seems to be a slight eruption on the skin. She is kept in a basement stable, moderately warm, and is fed the usual allowance of grain, but withal does not thrive; don't think her complaint is contagious as we have other horses in the same stable and they do not seem to be affected. Can anything be done for her? She has been troubled three winters with it.

OLD SUBSCRIBER.

[The mare's blood is impure. If she is not in foal give her a purgative drench; say Barbadoes aloes 7 drachms; carbonate of soda, 1 drachm; ginger, 1 drachm, all mixed in a pint of warm water. Then give every night in warm bran mash 1 drachm nitrate of potash for about a week. Afterwards give about a tablespoonful of sulphur in feed every night. If she is in foal give the other medicines without the drench, as it might cause her to abort. Groom well and keep her warm.]

SIR,—I have a valuable mare that cast her foal three and a half months after service, from some cause unknown to me. She seemed well and hearty both before and after. She was suckling a colt at the time. Would she be likely to do the same again if I let her get with foal, or would it be better to let her run a year? Would it be safe to work her on the farm after this when in foal?

ELLEN. SUBSCRIBER.
[The usual causes of abortion are strains, colic, ergot in the food, frights and purgative medicines. If you think it has arisen from any of these causes, you will be quite safe in getting her with foal this year; but if she has any natural predisposition to aborting, it would be advisable to let her run a year, especially if she is a young mare. In case of your not being able to ascertain the cause, you had better run the risk and let her breed right along. Under all circumstances mares should be regularly worked or exercised when in foal, if they are in health, but they should not be strained or overworked.]

SIR.—E closed find the annual dollar. Times are hard, but I am convinced that without your paper they would be still harder, for farmers at least. Our little valley seems waking up to the importance of fruit culture. Apple orchards are rapidly extending, while small fruits, including canberries, are coming to the front in the productions of the country. In reference to the Nonpareil Apple referred to last year, I think also mention land or granite soil very well adapted to its production.

BRADWICK, N. S. J. S.

SIR.—I intend using some artificial manure on my potatoes next spring. Please let me know through the ADVOCATE what kind would be the most suitable. Soil is light sandy loam. Would it pay to use plaster, or does it tend to impoverish the land?

J. A. K.
[Plaster, or sulphate of lime, tends to impoverish soils, except those deficient in lime, plaster being composed of

lime and sulphur. Sulphur is rarely deficient in soils. We think bone dust or superphosphate would be best suited to your soil, but if it is deficient in vegetable matter, the bone should be supplemented with fine farmyard manure, or nitrate of soda. Much depends upon the season in the use of concentrated fertilizers.]

SIR, The January number of the ADVOCATE not yet having reached me, I have only had a hasty glance at Mr. Marshfield's reply to my criticism of his article re "The Taxing of Scrubs." But I have observed that he makes a desperate effort to evade the question at issue, and has in several instances traduced my plainest statements. But this, I presume is the result of carelessness in reading rather than of wilful intention on his part. However, since he refuses to believe the records that he cannot doubt, as well as to produce records that he is willing, or any other advocate of the use of "scrub" bulls as sires, to meet with those "scrubs," or their offspring, the pedigreed animal and their produce, in a public competition, either as beef, milk or butter producers, or all of these combined in the same animal. Now here is a fair opportunity for deciding on the merits of the improved "scrubs" as compared with those of the pedigreed breeds, and to produce records that the greater merit in any or all these respects, all other things being equal, and making due allowance for first cost and cost of production, together with the present value of each, will tend to show from which the greatest profit comes, and hence which it is the most desirable to propagate. At what time have we seen "scrubs" as our fattest stock shows or at our dairy tests equalling the pedigreed breeds or their grades? Nay, when are we likely to see such so pitted against the pure breeds? It is freely conceded in this section that the writer has the undisputed honor of having produced the greatest weight and obtained the highest price and most money at a given age, say six months old, for a grade cattle beast. Yet these have always been strong in the Short-horn blood, but in no case had they been fed with a view of being turned off at so early a date, hence might have been easily made to carry one or two hundred extra pounds each. We have frequently seen two-year-old and sometimes three-year-old "scrubs," and indeed occasionally a pair of them, purchased for much less money than we have realized out of a six months grade. Now is it not most reasonable that, after much reading, an extensive observation, and considerable experience, we should feel quite fully convinced that pedigreed bulls are preferable to "scrubs," in point of profit, for crossing upon our common or "scrub," and grade cows? When Mr. Marshfield has succeeded in producing the offspring of a "scrub" bull that will milk equal to or better than our present herd of Ayrshires, and prove as reliable in producing their good qualities; or "scrubs" that will mature and ripen as early, giving as great weights as the best of our Short-horn bull upon common or grade cows; or that will milk, meat and butter equal to the grades, then we shall be able to perceive some sense in his cry against pedigreed bulls as in favor of "scrubs" for sires. Or when he can produce "scrub" calves that will command six cents per pound live weight, and at six months old will bring \$35, and which could be made to carry one or two hundred pounds extra at the same age, we will admit that he has an argument that will bear heavily on the question at issue. We believe that the arts of breeding and feeding are yet in their infancy, at least in these parts, and therefore, Mr. Editor, the more thoroughly this question of pedigreed sires as against "scrubs" is ventilated the better for the farming fraternity. Moreover, how can any of your readers repose confidence in Mr. Marshfield's statements after he has asserted that I wish to tax "scrubs" that my \$20,000 bull may go free, when I stated nothing of the kind? But I do say that any bull that is not worthy of a license for public service is not fit for use. Besides, I did state plainly that while I would willingly contribute towards making up the shrinkage in the municipal revenue occasioned by discontinuing the licensing of the sale of intoxicating beverages, by taking out a license for each of my bulls. Again, Mr. Marshfield persists in advocating the indirect payment of a premium upon laziness, indolence and ignorance in the land by the low assessment of unimproved and partially improved land with unworthy buildings thereon, and at the same time advocates the high assessment of the lands of men possessed of snap, intelligence, enterprise, thrift and industry. And why, pray, do these things? Because these are luxuries! Where, Mr. Editor, is the sense in such twaddle? One man possessed of these grand characteristics and who understands luck to mean pluck, invests largely in drainage, comfortable and respectable buildings, and forthwith up goes his taxes; while his shiftless, indolent neighbor lives in a house unworthy of our beloved country, leaves a few old logs to rot upon his fields, and because he thus lacks taste and enterprise his taxes are but nominal, as his land remains unimproved. Again a man invests hundreds in draining a wet lot, and is under the necessity of growing stock because his land is not adapted to grain growing; when the assessor comes around he is assessed not only for his land but also for its produce; while his neighbor across the way, with a naturally dry farm, grows grain and has a few hundred bushels in his granary, is assessed for his land only, not a bushel being mentioned. In the one case the land that had to be artificially made is assessed together with its produce, while in the other naturally good, only the land itself is rated. Where, sir, is the justice in this? Yet this accords exactly with Mr. Marshfield's principle of assessment. Is it not high time, Mr. Editor, that we, as farmers, put aside our party politics and take thought as to whom we send to legislate for us?

Yours truly,
Y., Middlesex.

[This is an important subject, and we should be pleased to see it well ventilated. We are grateful to our correspondents.]

pendent for his answers to Marshfield. All we desire is to see the truth brought to light for the interests of the farming community as a whole, not for any class. But we must circumscribe the question and not permit it to get beyond its original scope. Our correspondent has made a mistake in dragging the beefing properties into the issue, for nobody denies that our natives can be improved in their beefing properties by the use of thoroughbred sires of any of the beefing breeds. We must also reject the general purpose cow. Our native cow is a milk or nothing. But this is far from being the main point at issue. We should be pleased to have criticism from other writers, but the arguments must be confined to the following points:—1.—Without any reference to the inferiority or superiority of our native cow, is the taxing of our native bull justifiable on principle? The question originated from a proposition as to the propriety of taxing the bull, but as the intention must have been to annihilate our native cattle the cow cannot be left out of the issue. 2.—If the principle of the proposed tax is wrong, can it be justified on grounds of expediency? This question must include our whole system of municipal taxation. "Industry, enterprise and thrift," are no doubt taxed, but is it done so on grounds of principle or expediency? Is it the best system we can devise? Would a tax on "indolence" fill the bill? But the main question here is, Would the attempt to build up a native herd of milkers be enterprise or folly? 3.—Without reference to the principle or the expediency of the tax, is there sufficient evidence to doom the native cow on grounds of inferiority—not as a milk cow, but on the whole, and as being also less suited to our average condition?

SIR.—The annual meeting of the Ameliasburg Agricultural Society was held on Jan. 8, 1885. The annual report showed receipts, \$776.42; prizes and expenses, \$727.90; leaving a balance in hand of \$48.52. Prizes were paid amounting to \$442.25, nearly \$40 more this year than in 1883, and \$134 was paid for the FARMER'S ADVOCATE. Amount received for membership \$209, and \$305 was taken at the gate. The report showed also the amount of \$100 paid for buildings and fitting up of grounds. The society has cause to feel proud of their grounds, as they will compare favorably with any other Township Society in the Province. It has nearly ten acres, enclosed on three sides with a seven foot board fence, the other side being open to or facing on Robin Lake, one of as beautiful bodies of water as there is in Ontario, being over 100 feet above Bay of Quinte, with water clear, pure and easy of access. This makes a great addition to and an advantage the society has over many other societies. The following officers were elected for 1885:—W. E. DeLing, President; H. Welbanks, 1st Vice-President; John Nightengale, 2nd Vice-President; Edward Roblin, Secretary-Treasurer; John G. Peck, C. Osborne, W. G. St. Ford, R. R. Ross, N. A. Peterson, C. Giles, A. J. F. M. D., G. H. Sprung and Wm. DeLorg, Directors; and John A. Howell and J. G. Johnston, Auditors. Jacob R. Wood, the retiring President, was recommended to the County Society as a Director for 1885. The fall show will be held as formerly on the second Saturday in October.

SIR.—The "Cost of Raising Wheat" is the heading of an article in the January number of the FARMER'S ADVOCATE. I am not now a farmer, but I have been one, and take great interest in all farm topics. The ADVOCATE is a new comer to our house, and I can assure you is a welcome guest, its pages are read with deep interest, and its sentiments thoroughly endorsed. Our verdict is that every farmer in Canada at least should take the FARMER'S ADVOCATE. The object I have in replying at all to the article alluded to is that I fear the figures arrived at as a gain or profit on ten acres of wheat from a yield of thirty bushels per acre are too meagre, that it will act as a strong argument for farmer's sons that are at all inclined to leave the parental roof for the allurements of city life. It is not my intention to go into a detailed statement of debtor and creditor, only in a general way to set forth a fact or two that I think will meet with the views of every practical farmer. First, thirty bushels of wheat to the acre is an excellent average, and at 75 cents a bushel is equivalent to an average of 22½ bushels at \$1. Now I hold that any farmer of economical principles and judicious management that can make a showing so good as this from his wheat crop, with an equal showing from his other products, is not only making a good living, but is on the safe road to success, and his declining years will be those of comfort and ease. The cost of growing indeed is very hard to fix, conditions of farmers are so different. A merchant can readily arrive at the cost of his stock of goods, and from this show his gain or loss. Your first charge is \$3 a day. This, I hold, is incorrect; a farmer who would pay \$3 a day, which is high, for his neighbor's team, would find it a true expense, but the same work performed by himself and own team would not cost him \$3 a day by any means. All he would be entitled to charge would be his own living at cost price, horse feed at cost price, and interest on the value of horses and implements for the time they were employed in doing their part of the work. The charge for manure, too, is excessive; 75 cents would be a big price if he were to purchase in the city for cash. His own manure is a profit, save the hauling and drawing, and 25 cents ought to cover the last two if the distances were not too great. The other items of work that are done by the farmer himself and charged on the basis as if

cash were paid, I hold are wrong. A farmer selling his hay (which he never should do off the farm) at \$10 a ton, could not charge a feed account at a cost of \$10. All he would be entitled to charge would be the cost of producing the said hay. The rent account of \$40 in some cases might be correct. To an owner whose land was worth \$600 an acre the charge should only be the interest on \$600 at six per cent., for ten acres \$36, and if land were cheaper a less charge would follow. Our city is crowded with young men, and as noted by a reputable journal, "If the same energy were put forth on the farm by young men as is required here to eke out a livelihood, the result would be homes well supplied with the comforts of life." True, some of our cleverest men come from the rural districts, but many would be far more clever on the old homestead. All cannot live at home, we admit, but far greater results might be arrived at were our farms better worked. The fertility of our soil by proper and judicious management is only beginning to be known, and if our farmers' sons will remain at home and take the place their fathers have so nobly filled in establishing a comfortable fireside for them, instead of leaving them in their old age to toil, and depend on hired help, a golden future would be theirs compared with the strain of a busy city life.

PARKDALE, W. C. J.
[We are pleased with the criticism of our correspondent if every farmer took so much interest in such matters, he would not make a slave of himself by engaging in unprofitable branches of farming. If a few more retired farmers—farmers of leisure and intelligence—would follow the steps of our able correspondent they would be the means of awaking a deeper interest in their calling. Our object in making out the statements showing the profits on the ten acre field was not to induce boys to stay on the farm, but to show the absurdity of the statement that a good crop with a low price was as satisfactory to the farmer as a poor crop with a high price, and any actual figures which the farmer may use will prove the same thing. The standard of 22½ bushels per acre, at a dollar a bushel, may be a pretty high average, but not for land which will rent for \$4 an acre, and this is not too high a standard to aim at. If we had debited the field with lower figures the profits would have been far too great—much greater than any farmer makes—so that the total debits must come from one source or another. Every farmer can think of many little items which are not mentioned on the debit side of the account, such as risks, breakages, travelling expenses, leakages of various sorts, etc., to which no fixed amount can be set. We doubt that the average farmer makes 9½ per cent. on his investment, taking one year with another, much less 37 per cent., as shown by the statements. Manure at 75 cents a ton is scarcely one-fourth of the value of that produced under the highest possibilities. We don't object to the farmer charging the cost of production instead of market prices, so long as he is able to ascertain this cost, and then knows exactly what the balance represents; but we fear that the enormous balances to his credit would soon make him think himself much wealthier than the reality. If he debits one thing at market price, he must debit everything; and by using the market prices he ascertains his profits over and above those obtained as a laborer.]

SIR.—Would you kindly inform me if there are any insurance companies for live stock against death by disease?
PARIS, Ont.
[There are no such insurance companies in Canada.]

SIR.—Would you or some of your numerous readers kindly inform me through the columns of your paper, whether the oleander plant is poisonous or not? I have been told that it is, and ought not to be kept where children can get at it, that the leaf being chewed would cause fatal effects.
GORMLEY, H. P. S.

[The oleander is exceedingly poisonous, and the leaves or flowers should not be chewed by children or adults either. Care should also be taken that leaves are not left on the grass where stock is feeding.]

SIR.—I intend seeding down my fall wheat by sowing the grass seed (timothy and clover) on the snow in March. Would it injure the grass seed shoots to harrow and roll the wheat as soon as the ground gets firm enough to bear up a team in the spring? 2.—How many revolutions should each of the following pieces of machinery make while a team makes one round on the horse-power: the cylinder of a threshing machine, a chopper, and a circular saw?
RIPLEY.

[1.—The best results have been obtained by sowing on the snow, but the "catch" depends a good deal upon the season. Harrowing would injure many of the tender grass shoots, but would benefit the wheat, if the land has a tendency to bake. If the top soil is loose, rolling without harrowing would be sufficient. Please let us know the result of your experiment. 2.—This question cannot be answered without knowing the length of the horse-power arms and the size of the wheels and pulleys.]

SIR.—1st—I have a horse twelve years old that got a slight hurt in his stifle joint; last spring there came a lump or swelling about the size of a hen's egg in front of his leg opposite the stifle. He did not favour it until late in the fall when he hurt it again by a heavy draw. About five weeks ago he got his fore leg over the manger; in getting it back he threw himself hurrying it afresh; if he lifts it a little higher than common, he can hardly get it to the ground. It hurts him either to raise it up high, backwards or forwards. 2nd.—He also hurt the fore leg at the same time getting it back. It seems to be on the inside of the arm running up to the shoulder. When he first hurt it he lost all power in that leg, so that when he stepped would fall on his knee. He is some better on the fore leg, but if he makes a false step he doubles over on fetlock and knee; he seems weak in that leg; I am unable to do anything with him. 3rd.—I have another horse that appeared stiff in his hind leg this morning. On examination there was a swelling on the inside about the centre of the thigh; when rubbing it he would raise it high up, and seem to hurt him much; it is swelled some more this evening. A SUBSCRIBER.

APPLEDORF, Ont.
[No. 1.—We would recommend you to blister the stifle joint about once every two weeks with a cantharidine blister; apply a little lard to the part blistered the third day after each blistering. No. 2.—There is a rupture of the muscles on the inside of the fore leg. Apply the following lotion to the point of the shoulder and around the inside of the fore arm and under the breast three times a day: Hydro chlorate of ammonia, two ounces; kelp-petre, two ounces; alcohol, one pint; tincture arnica four ounces. Keep the animal in a loose box stall, and have him to feed in a high manger. No. 3.—Your other horse has Lymphangitis, that is, an inflammation of the lymphatic glands, situated on the inside of the leg. It is a very painful disease, and if neglected often leaves a thickened leg, sometimes called green leg, or weed leg. If taken in time it is easily got well. Give a dose of purgative medicine; Barbadoes aloes, seven drachms, as a drench; have the leg thoroughly bathed with hot water three times a day, and give it a dressing with the following liniment for each bathing: Spirits ammonia, four drachms; turpentine, one ounce; oil oreganum, four drachms; laudanum, two ounces; alcohol, eight ounces. Give every night and morning in bran mash, saltpetre one drachm. If the horse is in high condition bleed him.]

SIR.—When my son called on you a few days ago to pay my subscription for the ADVOCATE, he asked you to venturate the subject of the cost of the manufacture of cheese. The present cost of making for milk delivered at the factory is from \$1.15 to \$1.25 per cwt., and when milk is drawn by the factory company from \$1.35 to \$2 per cwt. We have made cheese at home in a small way for several years, and with information gleaned from practical cheese makers, and that the actual cost of material to manufacture 100 lbs. of cheese to be about 30c., which includes boxing. One thousand pounds of milk will on an average make 10 lbs of cheese, and requires ¼ of a cwt of rennet at \$2.50 per gallon; ¼ of a cwt of rennet at 12c.; ¼ lbs. salt at \$1.80 per sack of 250 lbs.; bandaging at 5c. per yard, and one yard a d a quarter will bandage three 6 lb. cheeses, and boxing 15c. per hundred. Another matter which requires reform is the way in which cheese is sold. Buyers are often worth nothing and depend on the banks to advance the necessary funds, which, if the market fall, they will not do, and factory men and patrons are often disappointed by buyers refusing to fulfill their contracts. I have known cheese to lie in a factory for months and have to be resold at a loss in price and weight. A man will not sell a farm or other valuable property without security, but factory salesmen will sell from \$2.00 to \$3,000 worth of cheese without any security whatever but the buyer's word, which is often broken when it suits his convenience. Now, as you are the "farmer's advocate," look into these matters, and invite correspondence upon them, and you may materially aid your patrons. A SUBSCRIBER.

[We are much obliged to our correspondent for his remarks, but before expressing our opinions we should like to hear from other authorities on the subject.]

SIR.—I have a two-year-old steer that has a lump on his jaw about the size of a hen's egg, and is growing very fast. What would you advise me to do with it? or what is it?
TEESWATER, Ont.

[You steer has a disease of the jawbone called Ostea Sarcoma. We would not advise treatment; the best way while he can eat is to try and get him fattened for the butcher.]

SIR.—We have been using superphosphate for the last two years. In 1883 there were a few barrels used with very good results. Last summer there was a large quantity of it used, and the result was very poor. Is it wise to make a free use of it? We have a freestone formation. What are the results where it has been in general use for a length of time?
J. G.

[Superphosphate always produces profitable results when used at the right time and in the right place. This fertilizer is used to supply phosphoric acid to the crop, but if the soil is deficient in other constituents of plant food, the superphosphate cannot be profitably used. For details read our editorial articles on "How to Save the Manure." The article relating to superphosphate appears in this issue.]

SIR.—1st—Shoes on a just a little most noted. What are the strain do you native cow able thorough calf last through be stable. Sh by a sure about ever not in calf? What would think she I LUSANAU

[1.—Use for the fet milk comb she is not medicine, three week calf again; ovary, and quicker you

SIR.—So nursery, a sian Mulhe price, and represented that of any vocates off when he were What is yo ROCKTON

[We advi the travell agents for heard of, a Trees that been talk double tha and given, subscriber charged \$1 perhaps tw

SIR.—W barley at 4 a ton for fe SUNNYV [When b 100 lbs., sh But you sa are much o forming su are one-equ must there if you wa The reason ket than t yet convinc

SIR.—I a vocate a le county, N which the ing, a very ADVOCATE. long since I found a lets of che around m cussed at ban), but while wor present by was no su ticularly c produced a thorough set at rest. cusion for conclusion it may for VICTORIA

SIR.—Th aga Agric Monroe, P President, Treasurer, urers' Rep society, in ship to giv honey, an per season yards of ductiveness 2nd prize honey, wa exhibition MELROSI

SIR.—1st—What is the proper way to make and set the shoes on a very valuable young horse's hind feet, that is just a little cocked in the ankles? 2nd—What are the most noted families of Shorthorns as milkers? 3rd—What are the Cruickshank family noted for? 4th—What strain do you consider the best to cross on Ayrshire and native cows for milk and beef? 5th—I have a very valuable thoroughbred Shorthorn heifer that lost her first calf last winter about three weeks before her time, through being worried by a bull getting loose in the same stable. She came in heat in proper time, and was served by a sure stook getter, and has been in heat and served about every twenty days throughout the season and is not in calf yet, for she was in heat again a few days ago. What would you advise me to do with her? Do you think she is likely to ever get in calf again?

S. S.

LUNenburg.
[1.—Use a shoe with high heels or low toe. Also blister the fetlock. 2.—The Bates' strain. 3.—For beef and milk combined. 4.—The Cruickshank. 5.—Breed her if she is not thin; then give her a good dose of purgative medicine, say one lb. of salts once a week for two or three weeks. By this treatment she will likely get in calf again; but if she has disease of the womb or diseased ovary, induced by tuberculosis or other causes, the quicker you dispose of her the better.]

SIR.—Some time ago I had a call from an agent from a nursery, and he was very anxious to sell me some Russian Mulberry trees at \$1.25 each. I objected to his price, and he then tried to convince me that the firm he represented had a stock of trees, shrubs, etc., superior to that of any other nursery in Canada. I spoke of the ADVOCATE offering Russian Mulberries as special prizes when he answered that he had seen some of yours, and they were nowhere compared with those of his firm. What is your opinion?
SUBSCRIBER.
ROCKTON, Ont.

[We advise extra caution in being led away by some of the travellers. The enormous prices charged by some agents for what are called ironclad apples, that we have heard of, are the nearest thing to fraud we can imagine. Trees that can be purchased at from 3 to 6 cents have been talked into farmers at \$1 and \$2 each, perhaps double that. The Mulberry plants that we have supplied and given, three plants to every one sending in one new subscriber, will be found as good as those you may be charged \$1.25 for. Those sent by mail must be smaller, perhaps two years younger than those sent by freight.]

SIR.—Will you be so kind as to let me know whether barley at 45 cents a bushel is cheaper than shorts at \$13 a ton for feeding pigs?
SUBSCRIBER.
SUNNYSIDE, Man.

[When barley costs 45 cents a bushel, or 94 cents per 100 lbs., shorts should be \$1 per 100 lbs., or \$20 a ton. But you say that shorts is only \$13 a ton, so that shorts are much cheaper than barley. Shorts have more flesh forming substances than barley, and also more fat, and are consequently more concentrated. With the shorts you must therefore feed coarser foods than with the barley, if you want to produce the most economical results. The reason why bran and shorts are cheaper in the market than their nutritive value, is because farmers are not yet convinced of their high feeding properties.]

SIR.—I saw in the September issue of the FARMER'S ADVOCATE a letter from Dr. Dunlop, of Boston, Ont., in this county, Norfolk, accompanied by a head of wheat in which there is a spikelet of chess represented as growing, a very clear representation of which is given in the ADVOCATE. The fact that wheat turns into chess, I am long since convinced of. Some seven or eight years ago I found a head of wheat in a sheaf having several spikelets of chess in it, to which I drew the attention of those around me, because the question happened to be discussed at the time. I put the head of wheat in my hat band, but unfortunately dropped it out through the day while working. You suggested the idea that it might be present by inoculation. In the instance I allude to there was no such chance, as my wheat, at the time, was particularly clear of chess, therefore it could not have been produced by inoculation. The subject is one well worth a thorough investigation, and it is time the matter was set at rest. It has time and again received considerable discussion for and against it, but resulting in no satisfactory conclusions. I hope the investigation you anticipate for it may for ever set this vexed question at rest.
VICTORIA, Ont. W. C.

SIR.—The following officers of the Township of Tyendinaga Agricultural Society, were elected for 1885:—George Monroe, President, Shannonville; Edmund Power, Vice-President, Marysville; Charles Anderson, Secretary-Treasurer, Melrose. After the adoption of the Treasurers' Report and the election of officers, a township bee keepers' association was organized in connection with the society, in order to encourage the farmers of the township to give more attention to the production of bees and honey, and it was resolved that the directors, at the proper season, should appoint judges to inspect the bee yards of members competing, and report on their productiveness, and how they are kept, and award 1st and 2nd prizes; also that special prizes should be given to honey, wax and bee keepers' supplies at the next annual exhibition of the Society.
MELROSE. C. A.

The Western Dairymen's Convention.

We were present one afternoon at the Convention in Stratford. The attendance was not as large as it was many years ago in Ingersoll, and is composed principally of manufacturers of cheese, dealers and officers, present, past and prospective, of the Association. Comparatively few patrons or farmers attend these conventions, although a very large amount of information is obtainable at them. The hall was not half filled. For the benefit of the Association and of the farmers, we would suggest that a portion of the money granted to the Association might advantageously be expended in encouraging special meetings in the rural districts, and imparting information freely among the patrons and farmers, as those are the persons now needing instruction. The cheese makers are pretty well posted, and there is no necessity to expend money for the organization of dealers; they are perfectly capable of looking after themselves. The complaint of farmers is that they have not time to waste three days, and they know not what part of the programme is to be brought forward; they object to paying 25 cents every morning, afternoon and evening, and to listen to parts of the programme they are not interested in. If the business was arranged and published beforehand, farmers would know at what time subjects of most interest to them would be brought up, or what speakers they would like to listen to.

Breeding for Cheese.

If we breed a herd to produce milk for market, or for cheese-making, we want a large flow which is rich in caseine. The presence of fats is no objection; but in this case it is preferable that the cream globules should be small and not separate from the milk. Milk may be very rich in butter and yet throw up no cream, because the cream globules are so small. This is often, if not always, the case with cows that have long gone farrow. It is generally supposed that there is a difference in breeds as regards the size of the cream globules. It is probably true of some families of the various breeds. All milk, however, has both large and small globules; and some breeds may yield cream averaging larger or smaller ones. This, we think, needs further testing.—[Farmer and Dairyman.]

The difference between a profitable and an unprofitable cow may be illustrated by a fanning mill. If you had to use one of these mills almost every day in the year, you would find that the one which took through a prodigious quantity of stuff would be the most profitable, all other things being equal. But if the sieves and other parts of the mill were so adjusted that large quantities of the good grain went out with the chaff or tailings, then it is possible that a slower feeder would be more profitable. The other extreme is just as objectionable, for if the wheat which you intend for the market is adulterated with chaff, heads of wheat, smut, inferior grains, weed seeds, etc., the product will bring a lower price, and you will have no siftings to feed your fowls or hogs. This is only another proof that moderation in all things is best, both for producer and consumer.

The Chicago Tribune states very truthfully that just now sheep-owners are having a hard time making both ends meet. In the West the fleeces of common sheep are worth little more than the cost of keeping the animal. Many will say that the fleeces will not pay that cost, and perhaps those of some sheep will not. But there are two ways to meet such a difficulty. One is to hold the wool until the reaction shall have come, as it surely will in due time; the other is to lessen the cost of production to a point that will enable the wool-grower to still sell at a profit, small though that profit may be. The first is risky because it is so largely speculative. The latter plan requires courage, for it involves the expenditure of more money and care for the improvement of the flock, and thus increasing the yield of wool for a given cost in keeping.

The fuel value of different woods.—Taking shell bark hickory as the standard value, and calling this value 100, the best maple can only be rated at 60, the chestnut oak 86, and the other oaks declined to Spanish oak at 52. Red oak is placed at 79 and white oak at 81. White ash is almost as valuable as white oak and is rated at 77. Beech and black walnut are placed at 65, and birches 48 to 63. The meanest kind of fire wood is Lombardy poplar; its value, compared with nuthickory, is placed at 40. A cord of dry shell bark hickory weighs 4,469 pounds; ash, 3,450; maple, 2,878; pitch pine, 1,904; Lombardy poplar, 1,774 pounds.

At the Ranchmen's Convention lately held at St. Louis, Mo., a resolution was passed in which the National Government was to be petitioned for a "cattle trail," extending from Texas to the Canadian Northwest, 1,500 miles long and 6 miles wide. This spot of land would be a nice size for a little kingdom. If the ranchmen succeed in doing enough lobbying to get this strip of land, they will soon have it so arranged that the width will be equal to the length, a square being more aesthetic than a parallelogram. This movement is important to us Canadians, inasmuch as we shall have to pay the whole cost of splitting the rails that will be required on the border, for the purpose of fencing out contagious diseases.

Some authorities hold that a cow which has an over motherly disposition is not a desirable milker; for during the time spent in fretting for the calf she loses in flesh and milk. Of course it takes food to repair the waste caused by fretting, but then it must not be lost sight of that it is the motherly disposition which makes the milker. A cold, indifferent, selfish nature is inconsistent with a plentiful flow of milk; such cows are usually of the beefing type. The best remedy is to remove the calf from the cow as soon after birth as is consistent with the rearing of good offspring.

I am well pleased with your excellent paper. I have been a subscriber for a long time, and I also take quite a number of other papers, some Canadian and some American, but I am convinced that the ADVOCATE is the most practical and best paper for the farmers of this country. Wishing you every success.

C. ANDERSON,
Sec'y Tyendinaga Agr. Soc.,
Melrose, Ont.

The Household.

Air.

BY THE REV. HARRY JONES, M.A.

Air is that one necessity of human life which cannot be withdrawn for even a few minutes without death. The fabric of our bodies may be deprived of solid food for a considerable time, and yet not be dissolved. It takes a long while to starve a man to death, especially if he be supplied with water. He will continue to live for many hours, even if this be withheld. Of course if we take away his meat and drink he will presently die, through his dissolution will be comparatively slow. But the total loss of air is speedy loss of life. If we stop a man from breathing, we stop him from living at once. And as life depends upon the having or not having air, so does health depend upon the sort of air that we have. Since we are incessantly inhaling it, we likewise necessarily take in what it carries—dust, motes, imperceptible germs. And we hardly realise what seeds of mischief, as well as mere lifeless matter, we may thus deposit within us. The purest air may be the vehicle of impurity. For this reason, however, well ventilated the bedroom of a person suffering from contagious disease may be, it is well not to sit in a draught which blows upon us from the bed. If we do, we may swallow and sow the seeds of the disorder in our own bodies. Thus, moreover, no one who anywise appreciates practical social science will idly hold his mouth and nose over drains, or over diggings in soil which may have long before been charged with impurity and decay. The settlers on the prairie in America, too, frequently suffer from malarious fever caused by breaking up ground which is a mass of old decay, and though potentially rich in human food, is sorely mischievous when first uncovered, to a man's life. In thinking then of the use of air that we cannot help breathing, we may well first recollect that even the best may be the vehicle of evil.

Again, we want plenty of air. Even when healthy persons are shut up in an unventilated room they suffer for it. They may inhale no seeds of disease, but they soon begin to breathe that air which has already done its duty in somebody else's lungs, and cannot as yet discharge it properly again. Gas, too, takes the life out of air rapidly; so that one man, long sitting or working in a closed parlour or study thus lit, will have his powers impaired. The oxygen which should have purified his blood is burnt up by the gas flame, and thus his heart and body are put upon short commons. The apartment may seem sufficiently roomy, but the goodness of the air in it is consumed. Of course, when several sit in one lit by gaslight the mischief is proportionately intensified. Always manage to have a fresh supply of our air in every inhabited room. The appetite of the lungs is enormous and exacting. If you watch water in which a diver is at work you will be astonished at the amount that he consumes. As he exhales each breath of air, it bubbles, or rather rushes up to the surface in such abundance that you might think there was a whale beneath it instead of a man. Our lungs want plenty of air as well as that which is clean, unbreathed, and unburnt. We cannot measure the subtle mischief caused by an insufficient

supply, or done by that which is foul and exhausted. Pale faces and aching heads are among the plainest symptoms of the harm wrought. Stunted growth, loss of appetite, and generally lowered powers of life, come from closed windows, stuffed-up chimneys, and tightly-fitting doors. A draught is unpleasant, certainly, and sometimes dangerous, but it is only the silent voices of the air pleading to come in and invigorate us. We must not be content with merely excluding it, but rather so arrange that the want it indicates may be supplied without peril or annoyance. We do not deny a generous friend because he knocks importunately at the gate, and when the breath of life pushes himself rudely in we should do our best to give him a quiet welcome, and not slam the door in his face. He is not particular, however, or likely to take offence. He is willing enough to slip into our company through a ventilator, and when he comes he always brings his gift of health. It is mainly because they close their windows tightly at night, and too many sleep in one room, that we see sallow faces among peasants who live in the country, and whose houses are surrounded by abundance of fresh air. The artificial stuffiness of the night undoes much of the purity of the outer day. The ventilation of bedrooms is a matter which especially cries for the use of Practical Social Science. People seem to forget that they breathe while they slumber, and that the life of the enclosed air they then inhale is soon exhausted. The riser is struck by the freshness of the morning air when he opens his window or issues from his door, whereas, in fact, his sense of it comes from having shut out the outer air altogether from his house, and therefore from his lungs, for several hours.

Change of air is often one of the most subtle and almost mysterious restorers or promoters of health. When, indeed, during holidays, the head of the household takes his family into the country or to the seaside from the town, the roses that come into the little one's cheeks are created mainly because they are almost all day out of doors, and not poring over lessons in the schoolroom. But there is unquestionably some difference in the quality of the air, since it may be not only hot or cold, but moist or dry, and have other properties besides.

P's and Q's.

The origin of the phrase, "Mind your P's and Q's" is not generally known. In ale-houses where chalk scores were formerly marked upon the wall, it was customary to put these initial letters at the head of every man's account, to show the number of pints and quarts for which he owed; and when one was indulging too freely in drink, a friend would touch him on the shoulder, and point to the score on the wall, saying, "John, mind your P's and Q's." That is, notice the pints and quarts now charged against you, and cease drinking.

One of the best remedies for rough or chafed hands is the following: One ounce of glycerine, one ounce of rose water, six drops of carbolic acid. In cold weather, whenever it is necessary to wash the hands, apply a few drops while they are moist, and rub well into the skin. It may also be used for the face.

Family Circle.

ONE YEAR.

"The second kiss, my darling,
Is full of joy's sweet thrill;
We have kissed each other always—
We always will.

"We shall reach till we feel each other
Past all of time and space;
We shall listen till we hear each other
In every place.

"The earth is full of messengers
Which love sends to and fro;
I kiss thee, darling, for all joy
Which we shall know!"

I cannot realise that scarcely a year has passed since Edgar Gray repeated that charming love-song to me. It was only one of many, but more to be remembered than the others, as it was the last time we should be together for a year or more, and the words so well engrossed our thoughts.

Papa was an invalid, with a great fondness for the sea, and so by the sea we lived, in one of those small picturesque cottages, which then were rare, but now may be found in great numbers in every sea-shore place. It was a perfect paradise to papa, who would sit all day in his large easy-chair on the veranda, contentedly gazing at the blue ocean. He could scarcely be induced to leave his favourite seat, even in storms, but would stay out until the spray compelled him to go in, so near was our cottage to the water. Loving the sea as he did, I never had the heart to propose our return to the city until the heavy frosts came.

My summers, you can see, were very quiet and uneventful. The village was a mile from us and though there was a great deal of gaiety there among the summer visitors, I seldom left papa; for I was his only child, housekeeper, and nurse besides, my old mother having been dead some years.

The two winters I had passed at home since my return from school, were so quiet as the summers. Papa had lost all taste for society, having been in ill health for so long. Though he still gathered around him a small circle of old friends, they could not possess much interest for me. I seemed quite alone, having no relatives living near, and I seldom went away, feeling that I ought not to leave papa, now that I was at home for good. So I refused all invitations from my school-friends, vowing eternal celibacy, and, in a girl's way, saying I should always live with him, and trying to be content in picturing such a future.

Something, however, had happened this summer, which overthrew all my plans for so calm an existence.

We were idly sitting at our not very early breakfast, one bright June morning, when, glancing up, I saw the unusual figure of a young man approaching the cottage. Papa rose to receive him with a glance at me he removed his hat, and I found myself stupidly staring at the handsomest man I had ever seen. He was an artist, I felt sure, even before he announced the fact to papa, requesting, at the same time, permission to sketch from our rocks.

Nearly all artists seem to be the fortunate possessors of great personal beauty. Even if they do not possess it to any remarkable degree, they enhance what they have by their artistic dress. Edgar Gray, in ugliest clerical costume—and what is so wholly devoid of grace?—would have still been the admiration of any girl. But when those great brown eyes and olive complexion were shown to their best advantage by the artist's background of dress, what wonder that I lost my heart? Not that it left me on that day, or many succeeding ones. But weeks of such mornings, afternoons, and evenings, caused the most natural results, and the "old, old story" was told once again.

He was going now to be gone a year, perhaps longer, and the broad ocean, which I never hated before, would separate us. Papa had readily given his consent to our engagement, from the first taking a great fancy to Edgar, who fascinated young and old alike with his gay, careless ways.

We had been sitting on our favourite rock, taking our last look together at the sea, so calm and beautiful in the still moonlight.

"My darling! my darling! if I could only take you with me!" he murmured, as he drew me to him. "But I shall work hard dear; and when I 'awake to fame,' please Heaven! there will be no more separations."

I could not let him go. "You will not forget me?" clinging to him. "I do not mean to doubt you; only you will be so long away, and will meet so many beautiful girls," I jealously said.

In his sweet, lover-like way, he whispered that none could ever be so beautiful to him as the one he now held to his heart; and my fears were quieted.

Unmindful of the time we lingered and talked hopefully of the unknown future, until, realising the lateness of the hour, we knew that we must say "good-bye" at last. Edgar went in to bid papa "good-night"—for the latter would never say "good-bye" to anyone—and then I walked to the road with him.

"Keep up your courage, darling!" were the last words I heard, as I dragged myself back to the house, turning at every step to watch my handsome lover, until, with a last kiss, and a wave of the hat, he disappeared from my sight.

I miss Edgar so much! It was the first real happiness which had entered my life; and that it should be taken from me so soon seemed very wrong and cruel. But necessity soon forced my thoughts into another channel; for papa sank rapidly that autumn. We wanted to take him to the city, where his old physician and friend could look after him better. But he was not willing to leave his grand old sea; and so we remained by it until the last.

Papa had been an invalid so long, and had left his business affairs so entirely to an inefficient lawyer, that everything was found to be in a terribly confused state. And when Dr Russell, kindly looking to my interest, had affairs straightened out, it was found that, after paying all debts, there would remain only a very small surplus for my support.

I remained with our old friend, after papa's death, until I obtained a position as governess. I was so thoroughly worn out with care and anxiety, as well as from bodily exhaustion, that I had neither the courage nor strength to start in my new life until the winter was well over, and the warm spring sunshine brought with it life and hope.

Edgar's letters had been long, but not as frequent as at first. Mine were never long, as he had all the news on his side; I could only tell him the daily events of my quiet life, and my thoughts, all breathing love for him. At last his letters appeared different to me. No personal news, which I so loved to hear, but all were descriptive, guide-booky—call it what I might, there was a difference. At first, I laid it all to my morbid state; but as I became more like my old self, the tone of his letters seemed the same.

While at school, I had formed quite an intimate friendship with a girl named Anna Morrison. Rich, amiable, and handsome, she led the whole school. She became very fond of me, and I of her. Though she went abroad soon after our school-life ended, we still kept up, in a most unusual manner, a devoted correspondence. I had written to her, at the time of my engagement to Edgar, and had received the warmest and sweetest congratulations by the next mail. She had lately written that, much to her delight, she had met Edgar in Rome, at an artist's reception.

"With your name for a passport, it did not take us long to become acquainted, you can imagine," she wrote, going on to speak of him in glowing terms. "He is fast making a name here. His genius alone would gain that for him. And then his uncommon beauty and charming manners make him a great addition to society."

It was very kind, I know, of Anna to speak of him so highly, and I always wanted her to like him. But, with the perversity of human nature, I almost wished she was not so much pleased with him. For deep in my heart was a feeling that she unintentionally had caused the changed tone of his recent letters.

"What a beautiful place!" I said to myself, as I gazed at my future home. For it would be that to me, I supposed, as long as I assumed my duties of governess to the satisfaction of its inmates.

I saw a large, old-fashioned house, with terraces and a smooth, velvet lawn separating it from the street, all shaded by several large elms.

A flower garden on one side, and a croquet lawn on the other, complete this lovely old place.

The interior, as I found afterwards, was fully as attractive. There was a hall running clear through the house, with rooms on both sides. Large rooms, and yet the house was full of uncanny nooks and corners, also. For each generation had added to the homestead, and improved it, according to their individual tastes.

In short, it was a great, home-like house, especially when compared to the straight-in-the-air house of to-day.

Mrs. Ralston met me in the hall, and showed me to my room, a lovely little apartment, furnished in white.

"Do not feel obliged to come down to-night; I will send you some tea, and meanwhile you can rest yourself, and get used partially to your new surroundings."

I was unprepared for so much kindness from a stranger, and the tears came into my eyes as I thanked her.

"You are so young," she said, looking at me. "You do not seem to be much older than my daughter Edith. But I must leave you now. I hope you will find everything convenient. If you wish for anything, do not hesitate to ring."

I unpacked my trunk, put my belongings in their respective places, and throwing on a wrapper seated myself at the open window, trying to realize where I was, and feeling how utterly novel was my position.

A servant brought me a most tempting supper, and in spite of new surroundings, which cannot but fail to be depressing to everyone, I observed that very little remained to be taken away.

I was up early next morning, and dressing quickly, ran down through the great halls, out into the garden, so that I could drink in all its beauties alone without the feeling that I must express my admiration in words. Early as I was, there was some one ahead of me.

"I know there is no Mr. Ralston, so who can it be?" I thought, as the figure threw away his cigar and came toward me.

"The children's governess, I presume?" he began. "Permit me to introduce myself—Richard Graham, Mrs. Ralston's brother. I suppose you are the new governess, as I know she came last night. Otherwise, judging by your looks, I should take you to be a playfellow of the children's."

I was both angry and ashamed—angry at his unpleasant tone, and ashamed because of my youthful looks, which I began to fear would seriously injure my chances as a governess, they having been twice remarked upon since my arrival.

"I am the new governess," I said, in my most dignified manner. "But indeed I am not young—I am twenty-two!" with a burst of confidence which I would have given words to recall it being pleasantly received by a half-smiling laugh, prefaced by the words:

"A grave age, indeed. I suppose you have given up all the frivolities of youth?"

I said nothing, involuntarily glancing at my black dress. A current of thought swept over me; the loss of papa, Edgar's unintentional indifference—in short, my loneliness, made me feel sick and faint. Only with a powerful effort did I awake myself to realities, and start to go in.

"You are ill! The sun is too strong for you! Let me walk to the house—No?" as I shook my head. "Take my advice, and don't try this again."

Encouraged by the difference of tone, for I hardly recognized it to be the same as I heard a few minutes ago, I turned and looked at him for the first time, and our eyes met. I never should have had the audacity to have spoken at all, had I looked into them before, so stern and grave were they. Mine quickly fell before them.

The summer passed by, and the cool and perfect September days came. Only a year had passed since Edgar and I parted. We still kept up a sort of hollow correspondence. At last, after a long letter from Anna Morrison, showing me, unknowingly, more of both their feelings than ever before, I wrote to Edgar, releasing him from our engagement. I soon received a letter in return, begging me to believe he still loved me, confessing that he did admire Anna—at first was interested in her as she was my friend, and afterwards liked her for her own sake—but that he did not love her, and had no reason to suppose she cared for him other than as the lover of her dearest friend.

This, and more; and though I knew Edgar was sincere in all he wrote, I could not feel he was what he had been to me. I was not exactly jealous, although it appeared so, but the feeling that they were better suited to each other than we could ever be took possession of me, and our engagement was broken.

Mrs. Ralston was never equal to entertaining visitors in summer to any great extent, being a sufferer from the heat. So, during the warm weather, the family, when not travelling, were quite by themselves. But the autumn found the house well filled with guests, for it was a place charming to visit at all seasons.

"Gertrude, my dear," said Mrs. Ralston one day to me, for she always called me that now, "I can see that you and Richard do not get along very well together. I have seen it for some time, but have hoped you would become better friends. I do not know I ought to say that, for Richard never quarrels with people unless he takes some interest in them. A queer and disagreeable habit, you think, and so it is. Listen, Gertrude, and I will tell you something: it is the old story of 'false and fair,' and Richard now has no confidence in women. For when a deep nature like his is stirred to its depths, it takes some time for it to regain its natural evenness."

"Poor Mr. Graham!" I thought to myself, smiling, the next moment, at my daring to pity him. But I did, all the same, and hated the unknown, besides, for so embittering his whole life.

Richard Graham and I did quarrel terribly. We never met without disagreeing, and yet there were times when he seemed so strong and true that I felt myself involuntarily drawn towards him.

Mrs. Ralston was to give a party that evening, and as she was expecting numerous guests during the day, she was very busy, needing my assistance besides. Doors had been opening and shutting all day, and merry greetings exchanged. Even Richard Graham seemed to have caught the infectious spirits of the household, for every little while I could hear his low, deep voice, saying pleasant nothings to his sister's guests.

I was putting the finishing touches to some flowers in the drawing-room, walking slowly backwards to observe the effect of my labours before going to my room to dress, when I heard a voice which sent my thoughts flying back to that last summer by the sea. I could see the red curtains waving to and fro in the cool evening air; the little table, with tea still on it, waiting for some one who was late; the soft Turkey rugs on the floors, and the low easy-chairs, with papa in his favourite one on the veranda. And, later, two figures seated on the rocks, hand in hand, whispering sweet nonsense.

All this came up so vividly before me, that I wondered if I were awake or dreaming, when the door opened, and Richard Graham entered, followed by a slighter, familiar figure. I was stupefied for a moment, so great was my surprise. Then I tried to pass them in the gathering dusk. But I was perceived by those searching eyes, which nothing seemed to escape.

"Miss Gertrude! What are you doing here, in this semi-darkness?"

He had time to say no more, nor I to reply, for at the sound of my name Edgar Gray turned, and, with a surprised "Gertrude! you here?" took my hands in a hearty, friendly way, and I knew I foresaw truly when I told him he would love Anna Morrison.

I was dressed for the evening, and was sitting for a few moments in my room before going down stairs, for Mrs. Ralston had insisted on my appearance. I knew I did not love Edgar now, and yet I was strangely sad to-night.

"No analyst can guess the cause, A woman's reason laughs at laws, Sure, I am glad to know the wound I gave is healed, that he has found Love's blessedness and peace: and yet A woman never can forget The man who once had loved her."

I repeated, softly, to myself, as I went down the broad stairs, forming, in my white dress, a part of the same ghostly picture in the flood of moonlight which came in from the open doors; for the air to-night was particularly soft and clear.

Nearly all had gone out to breathe the fresh air, and the lawns and garden were dotted over with gaily-dressed people. So I crept round to the library, to see if I could find Edith. It was separated from the drawing-room by heavy curtains, and as I partially hid myself in their folds, trying to attract Edith's attention, I was aware of another presence in the room, and in the dim light, in one of the deep window-seats, I perceived Richard Graham. He was in such deep thought, that he neither saw nor heard me, until, frightened by his silence, I laid my hand on his arm, forgetting my usual fear of him, and said:

"You are ill! Let me do something for you! Let me call your sister!"

But as I started forward a hand stopped me, and a voice said:

"I am not ill. As long as Mr. Gray is not in sight, let me take you to my sister. If he were, I should not think of being so officious."

I looked at him in amazement, but had no opportunity to speak, as we were now at Mrs. Ralston's side.

"I was afraid you were still asleep; you were so tired," she smilingly said. "Now enjoy yourself," and she introduced several people to me.

I did enjoy myself, and danced, laughed, and flirted to my heart's content. I felt perfectly bewitched that night—not like a staid governess, but as any girl of my age should feel. Wherever I went I saw a pair of stern eyes following me.

I had been dancing so steadily that the air of the house seemed stifling, and, throwing a light shawl over my head, I went out into the garden. I wandered down one of the paths, thinking of the strange turn affairs had taken to-night, and trying, most of all, to understand Richard Graham's looks and words. Wrapped though I was in my thoughts, I heard approaching foot-steps, and crouched down behind some tall, white lilies. Richard walked passed me, stern and pale as in the first part of the evening. As he passed my hiding-place again I caught the words:

"Old lovers!"

"Ah, no!" I said, in a voice hardly above a whisper, as I rose from my fragrant hiding-place.

Low as I said it, he heard me.

"Gertrude, you here? What are you doing? Hearing my thoughts, so that you can trample on them? That is a favorite pastime of you all!" in his bitter tone I had learned to know so well.

"No—no! I wanted to tell you that Edgar and I are only friends," I said, in a foolish voice.

I drew nearer to him in my eagerness, when my hands were taken in his, and his voice said:

"Is that the truth? Forgive me for doubting, but I have been deceived once. Child—child! are you sure of what you are saying?" and my hands fairly ached in the intensity of his grasp.

I could only murmur:

"Indeed it is true. Won't you believe?"

A look of relief came over his face. He bent his head, and whispered in my burning ear:

"Do you think you could ever love such an ugly, jealous fellow as I am?"

There was no need for me to answer, for my love was in my face, and, as he clasped me to him, and our lips met, I knew we both truly loved at last.

A. W.

Boys Again.

It is related of the late Judge Black that in 1857, just after he was appointed Attorney-General of the United States, he was staying at the Astor House in New York. Scores of leading politicians called upon him. One day, a small, gray-haired man arrived at the hotel, and registered himself as Judge J. Williams, Iowa. On seeing the name of Judge Black on the book, he took a card and wrote,—

"The Supreme Judge of Iowa presents his compliments to the Attorney-General of United States." He sent this up to Judge Black's room together with a half-sheet of paper on which he had written,—

"O Jerry, dear Jerry, I've found you at last, And memory, burdened with scenes of the past, Returns to old Somers's mountain of snow, When you was but Jerry and I was but Joe."

In less than three minutes the great, dignified Judge Black was coming down the stairs, two steps at a time, with the little bell-boy in close pursuit.

The old school-mates and law-students were together after a separation of some thirty years.

Two old men embraced each other, and neither was able to utter a word. Both have passed away, and no better representatives of the American bar that have sprung from humble origin can be found in American history.

Proposal and Reply.

A widower named Little, shortly after he lost his wife, proposed to Hannah More, who was a small woman, in the following manner:

"I lost the Little that I had,
My heart is sad and sore;
I'm sure I would be very glad
To have a little More."

To which Hannah More replied:

"I'm sorry for the grief you've had,
The pain you must endure;
The heart by Little made so sad,
A little More won't cure."

Minnie May's Department.

MY DEAR NIECES.—The essay competition for January proved a very satisfactory one, there being a number of good papers, the subject being "Music and its Influence." The prize, a *Pearl Card Case*, was awarded to Mrs. Richard May, Collingwood Mountain, Banks P. O., Ont.

By way of variety, which you know is "the very spice of life," we change our competition from essay-writing to handiwork, and offer a prize this month of a *Lady's Companion* for the prettiest pattern of crocheted lace edging in cotton with directions for making the same. Crochet and braid combined not accepted; the work must be clean and evenly done. All samples must be in by the 15th March.

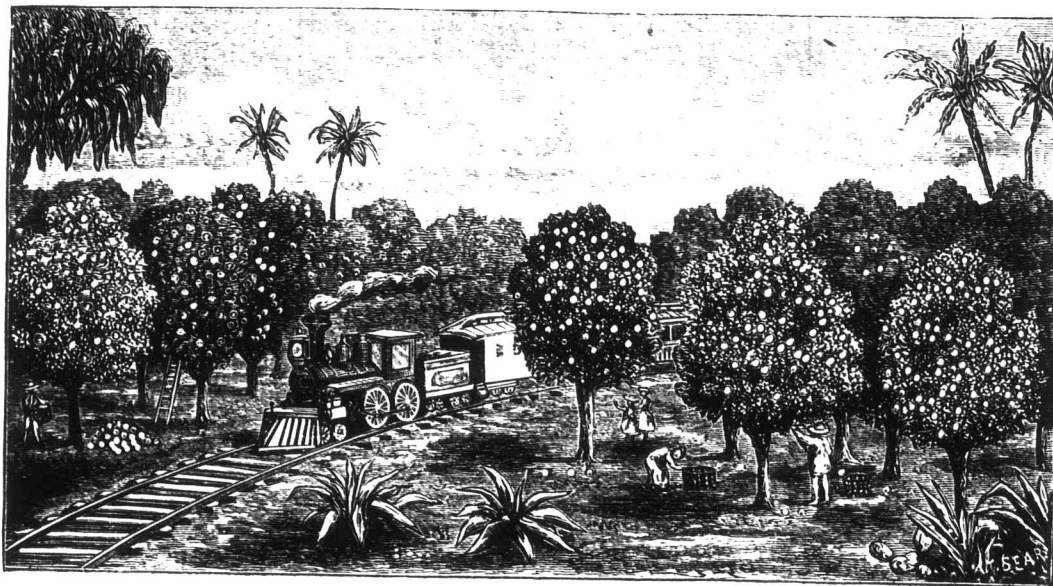
No doubt you all find a great deal of fascination in your crocheting and other fancy work, but do not allow such work to occupy all of your time. The plain sewing and mending basket must be attended to, and such duties ought to be shared by the daughters of the household. It is a most painful thing in families where the mother is drudge, to see the daughters reclining at their ease, with their drawing, their music, fancy work and reading, beguiling themselves of the lapse of hours, days and weeks, and never dreaming of their responsibilities, but as a necessary consequence of a

neglect of duty, growing weary of their useless lives. Activity is the ruling element of life, and there is no household work such that a girl should deem it beneath her position to know how to perform. Of course there is a great difference in the working habits of girls, which is owing both to their natural temperament and home training. It is a great lesson when one has learned how much more enjoyment there is in doing a piece of work with accuracy or skill, than in only half doing it. Miss Mulock says: "Can we not bring up our girls more usefully, less showily, less dependent on luxury and wealth; can we not teach them from babyhood that to labor is a higher thing than merely to enjoy; that even enjoyment itself is never so sweet as when it is earned; can we not put into their minds, whatever be their station, principles of truth, simplicity of taste, hopefulness, hatred of waste, and these being firmly rooted trust to their blossoming up in whatever destiny the young maiden may be called?" Let me say to those of my dear girls who have not been trained to lives of usefulness, that "it is never too late to mend," but set about at once to redeem the past. There is

so much can be done and learned by a simple effort. You know not where your lot may be cast, whether in pleasant places or thorny pathways, so all must be prepared for every emergency.

MINNIE MAY.

The great exhibition now in progress in Louisiana is attracting immense numbers of Canadians to the semi-tropical climate of New Orleans. The cheap rates offered by the Michigan Central and Illinois Central Railroads afford many an opportunity of visiting the sunny south, where vegetation is in its prime, and the immense exhibition is to be seen. Many Canadian exhibits are being made there. Not only is this exhibition attractive for the information attainable, for the pleasures of the scenery, but also to persons in search of health or even a change. Others are taking the Missouri Pacific from St. Louis to Texas, Colorado, California, the present being the season of the vintage in California; also, the orange groves are now laden with fruit. We give the



A SOUTHERN SCENE.

accompanying cut as a representation of some of the scenery through which the railroads pass in the southern parts of our continent. What a contrast when comparing with our climate and amusements! Here everything is covered with deep snow, which affords great attraction to those bent on sleigh-riding, tobogganing, skating, snow-shoeing, etc., and the carnival held at Montreal, P. Q., is not one of the least entertaining features of our northern homes.

DEAR MINNIE MAY,—Allow me to thank you for the clock awarded me for prize essay. I am very much pleased with it, and deem myself fortunate in securing it. I like the *Advocate* very much, and assure you that your department is not considered the least of its attractions.

Yours respectfully,

S. ROBINSON, Port Hope.

"Mister! are you the gentleman as is the mate?" asked a steerage of one of the officers on a New York packet ship. "No," says the man addressed, "but I am the gentleman as cooks the mate!"

Work Basket.

SHAWL BAG.

A bag is a capital thing to save a shawl from the dust of a journey, and, if of good size, can be used for holding toilet articles, etc. The best material for making shawl bags is brown water-proof. Cut two round end pieces eight inches in diameter, and a piece twenty inches wide by twenty-five inches long. Stitch these together, leaving the straight seam open nearly all the way across, and bind its edges and the edges of the end pieces with worsted braid, sewed on with the machine. Close the opening with three buttons and button-holes. Stitch a piece of braid on a band of the water-proof two inches wide, and fasten on firmly for handles. An outside pocket is very convenient for carrying a book or papers. A person while traveling will never wish to be without one of the shawl bags, after finding out how useful they are.

A note paper case may be made of velvet or cloth, lined with silk or glazed calico, and ornamented with braid or simple embroidery. It should be just large enough to hold commercial note paper. Made larger, to suit the square paper generally used for sermons, it will make a very convenient sermon case. Put the initials of the owner on the outside; close with button and loop of ribbon, and put a loop of ribbon inside to hold a pencil.

KNIT LACE EDGING.

Cast on 17 stitches and knit across plain.

1st row—Knit 2; throw thread over as if about to purl; narrow; knit 1; throw thread over; narrow; knit 1; slip and bind, that is, slip one stitch, knit the next, and pass the slipped stitch over; throw thread over; knit 3; throw thread over twice; narrow; throw thread over twice; knit 2.

2nd row—Knit 3; purl 1; knit 2; purl 1; knit 3; purl 5; knit 5.

3rd row—Knit 2; throw thread over; narrow; knit 1; throw thread over; narrow; knit 1; slip and bind; throw thread over; knit 10.

4th row—Knit 2; throw thread over twice; narrow; knit 1; narrow; throw thread over twice; narrow; knit 2; purl 3; knit 6.

5th row—Knit 2; throw thread over; narrow; knit 2; throw thread over; knit 3 together; throw thread over; knit 4; purl 1; knit 4; purl 1; knit 2.

6th row—Knit 12; purl 3; knit 6.

7th row—Knit 2; throw thread over; narrow; narrow; throw thread over; knit 3; throw thread over; narrow; knit 2; throw thread over twice; slip 1; knit 3 together; pass stitch over;

throw thread over twice; narrow; narrow.

8th row—Knit 3; purl 1; knit 2; purl 1; knit 3; purl 5; knit 5.

9th row—Knit 2; throw thread over; narrow; knit 1; throw thread over; narrow; knit 1; slip and bind; throw thread over; knit 10.

10th row—Cast off 3; knit 6; purl 1; throw thread over; narrow; purl 1; knit 6.

Repeat.

HINTS IN KNITTING.—How many mothers realize that they can knit up as well as down? When children have reached the age when they wear out the knees of their stockings and the heels and toes also, the ingenuity of women must be exercised. In the most hopeless-looking stocking there is usually a strip at least an eighth of a yard long which is too good to throw away, and yet it is too much worn to pay to ravel out and knit over; from this, then, cut off the ragged top and bottom, and knit up as well as down. If you cannot match the color use another shade.

PRIZE ESSAY.

Music and its Influence.

BY MRS. RICHARD MAY, COLLINGWOOD MOUNTAIN, BANKS P. O., ONT.

Music is one of God's greatest gifts for making people happy. In the home circle its influence purifies, elevates and strengthens. I have heard it said that a singing family is always a happy family, and I think there is never any want of affection in a family where young and old try to make home happy in the evenings by their combined performance, their skillful blending of voices and instruments.

Did you ever think what the world would be like without music? What would our religious services be like without it? Our Saviour Himself designed His church on earth to be a church of song, for we read that the closing scene of His last supper with His disciples was to sing a hymn before they went into the Mount of Olives. It is hard to bring Christians together by creeds, but all differences are forgotten as their voices blend together in singing the sweet story of redeeming love; song binds the church on earth and the saved in heaven together. What would become of our processions, our welcomes to kings and statesmen, without music? What else will kindle fervor in an army so readily? Wellington revived the failing courage of the Highlanders at Waterloo by the strains of their national airs upon the bagpipes. A writer has said truly, "The world without music would be a voiceless desert, life without music would be wanting in its purest inspirations."

Everybody who has a voice should learn to sing, although they may never be a Jenny Lind, and everybody with an ear should learn to play, not so much for the entertainment of others (although that is of great value) as for the personal advantage to themselves, in enabling them to unlock the secret riches of the genius of Mozart, Bach, Beethoven, and many another illustrious musician.

Music seems never to be out of place; when we are happiest nature seems to call for it. Then who would grudge the young their light-heartedness while their feet keep time to the merry tune? It is no new way of showing hap-

piness. We have all read the story of the prodigal's return, and how the loving father in the gratitude of his heart for his boy's safe return, had the fatted calf killed, invited his friends in, and made merry with music and dancing.

When we are despondent, what will soothe so quickly as music? It was used in olden times by the "sweet singer of Israel" to quiet the turbulent spirit of Israel's first king, and afterwards by the same David singing himself out of the depths of despondency into the most triumphant trust and joy. Luther, in hours of danger, said, "Up and play upon the organ." And when we are mourning the loss of some loved one, how grateful we feel to the friend who can sing to us of the Golden City where just inside the Beautiful Gates our loved ones are waiting for us.

And Oh! if earthly music be so sweet, what will that grand volume of sound rising up from millions of voices and filling Heaven with melody, be like?

"When round my dying bed
Assembled those I love,
Then sing of heaven, delightful heaven,
My glorious home above.

"When the last moment comes,
Let one sweet song be given,
Let music charm me last on earth,
And greet me first in heaven."

Recipes.

SOUP.—This forms a most important article of food with most people. It is an economical disposition to make of pieces of meat not otherwise easily made useful, and even very cheap meat may be converted into palatable and wholesome food. The directions for this vary. We give one of the most economical: Put in a pot four and a half quarts of cold water and three pounds of rump beef, with whatever remains of poultry or cooked meat may be at hand. Put upon the fire until it boils, and then place where it will simmer gently, removing the scum as it rises; add two carrots, two turnips, two small onions, a head of celery, and three or four cloves. Let it simmer for six hours, adding water to supply the loss by evaporation. This may be varied by using different vegetable, etc. The meat and vegetables are removed and the clear soup served. After which the meat and vegetables are served plain, or the meat is dressed with tomato or other sauce. Sometimes a tough fowl is put into the soup pot and cooked until tender, and then put into the oven and browned. The broth thus made serves for a variety of soups; with vermicelli, macaroni, rice or barley, it gives soups of those names. By using a variety of vegetables cut fine, it makes vegetable soup. Roast an onion until it is thoroughly brown, and boil it in the broth, and you will have brown soup, or use a little of the following:

BROWNING FOR SOUPS.—Many of the rich-looking soups owe their attractive appearance to burnt sugar prepared as follows: Put three-tablespoonfuls of brown sugar and an ounce of butter into a small frying pan and set over the fire; stir continually until it is of a bright brown color; add half a pint of water; boil and skim, and when cold bottle for use. Add to soups at discretion.

OX-TAIL SOUP is an exceedingly rich preparation, highly relished by most persons, especially in cold weather. Two ox-tails are cut in pieces at the joints, and with carrots, onions, turnips, pepper and salt, are slowly stewed in three quarts of water for three or four hours, or until the meat parts easily from the bone. A little thickening of flour is usually added. The flavoring is also varied by the use of cloves, catsup, etc.

APPLE SAGO PUDDING.—Soak a cup of sago in half a pint of cold water with a little salt for an hour. Pare, core and quarter about a dozen apples; place in a deep pudding dish, pouring the sago over them, then enough boiling water to cover the apples; bake two hours.

CRULLERS.—Three eggs, and an equal quantity of sugar and butter, flour enough to roll out thin; fry in hot lard.

Answers to Inquirers.

C. L. B.—1. Gentlemen's braces may be worked on silk canvas and lined with white leather, or plain satin braces can be purchased now ready for painting or embroidery. 2. Reading French books aloud and translating them into English will be found an excellent method of improving yourself.

SNOW DROP.—1. Write and thank the persons who have sent you wedding presents at your earliest convenience. 2. We advise you to leave the color of your hair to nature, and the grey hairs you mention are nothing to grieve about. They may be constitutional or caused by headache, and cannot be cured without danger of injuring the hair and health.

MRS. B. T.—1. Travelling suits should be simple and unpretending, the quality of the goods fine and well made, but no display. Jewelry is dispensed with, a breastpin, watch and chain not being considered jewelry, but rather articles of necessity. 2. Bric-a-brac means "odds and ends, old stores;" it is pronounced *brick-ah-brack*.

PRIMROSE.—1. The clergyman would take the bride's mother; the bride and bridegroom would of course sit side by side at the centre of the table, with the bride-cake before them. The groomsmen takes in the principal bridesmaid, and they, as a rule, sit next the bride. The bride's father would take in the lady to whom most respect should be shown; beyond this you must arrange as you think fit.

A. B.—1. Cork is the bark of a tree resembling the oak, which grows in most of the southern countries of Europe. The Egyptians made their coffins of cork lined with a resinous composition. 2. Mix the rum and castor-oil in equal proportions, and well rub into the skin of the head twice a week. 3. If the corn is between the toes, sometimes keeping pieces of tissue paper between them will wear the corn away.

WM. P.—Certainly the hat should be removed immediately upon entering the church door, but the overcoat may remain on until the seat is reached, when it is folded and thrown over the end or back of the pew.

FANNIE.—You do not state whether the dress is for a young girl or grown person, so it is hard for us to advise you; but a very pretty and simple way is to trim the skirt with alternate rows of double box plaitings and wide lace, or with ruffles edged with narrower lace. Make an overskirt with full, loose drapery at the back, and long, pointed front trimmed with lace, and a yoke waist.

For the amusement of our readers we insert the following, taken from a Wisconsin paper: A man writes to The Sun as follows:

DEAR SIR:—Am a constant reader of the Sun, and humbly solicit your advice. I am a young man thirty-two years of age, good looking, so the people say, and the young ladies say that my eyes are enchanting and mustache just lovely; am a lovely dancer, have arrived at the period of life that I feel as though I ought to get married. Now the trouble is, I can get almost any of the young ladies here for a wife, but I am madly in love with a young waiter girl. She is also good looking, sixteen years old, and I think she loves me. My relatives object to my keeping company with her because she works out. I am worth about forty thousand, and am really smart. Please inform me what to do. I don't like to elope.

[Bah! You make us tired. A man thirty-two years old that hasn't got more sense than you have, ought to go and bury his head. And so the ladies say your eyes are enchanting, eh? Your mustache is lovely, is it? Well you better keep on travelling on your shape, twisting your mustache, looking at fool girls out of your enchanting eyes, and keep away from that waiter girl, as she has probably got more sense than your whole family. And pray what right have your relatives to stick up their noses at a girl who works for a living? Are they trying to ape the cod-fish aristocracy of Boston, which believes that a girl who works cannot enter the kingdom of heaven without a pass from them? Are your relatives Dukes and Duchesses, that they are above a girl who works? who appointed them to preside over the destinies of the poor? Did any of them ever work? If they did not, they have nothing to say. What do they do? The Sun is of the opinion that the waiter girl is as far above any relatives of yours who tries to look down on her, as you are above a calf, and if she knew what a soft headed fellow you were, she wouldn't allow you to address her. If you were worthy of that waiter girl's love, you would have been so indignant and insulted when your relatives objected to you keeping company with her on account of her having to work for a living, that you would have gone to her and proposed in fifteen minutes, laid your forty-thousand miserable dollars at her feet, and set her up at the head of an establishment that your relatives might envy. One throb of that girl's noble heart is worth more than your forty thousand dollars, and your shoddy relatives thrown in. But your own letter shows that you are a vain man, unworthy of such a girl, and you had better marry one of those girls who say your eyes are enchanting and your mustache just too lovely. If you should marry the working girl you would be apt to twit her of being nothing but a working girl when you married her, and you wouldn't have sand enough to protect her from your nickle-plated relatives. A working girl wants a man for a husband, not an enchanting-eyed dancer with a lovely mustache, who is smart.]

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—I want to tell you a little story by way of introducing my letter this month. The other day three boys went off for an afternoon's skating. The ice was as smooth as glass, and they flew over it like the wind, sometimes describing great circles, sometimes spinning round like tops, then cutting all sorts of pretty, fancy figures, and again racing along as fast as their skates could go. After awhile Frank paused for breath. On the bank of the pond he saw a schoolmate, who was watching the sport with wistful eyes. "I declare boys," says Frank to Harry and Fred, "I don't believe that fellow has had a chance to skate this winter. He hasn't any skates, I'm sure." "Skates? not he; a good many days, I am afraid, he doesn't get any dinner," answered Harry. "Well," Frank smothered a little sigh as he spoke, but he spoke bravely, "I think it's mean for us to have such fun while he has none, and here goes. I say, Dan," he shouted to the boy on the bank, "come, take a turn on the ice; I'll lend you my skates awhile." Dan needed a little urging, but the other boys, who liked their comrade none the less because he happened to be poorer than themselves, insisted, and the rest of the time he was among the skaters instead of Frank. They all went home happier than usual, for those who do kind things are always repaid by the double delight they feel; and those who accept kindness gracefully are the happier for it, too. How many of you boys and girls are enjoying the luxury of helping others along the way? We like to think that every day some of you are making the world gladder by simply doing the best you can wherever you happen to be. Do not wait for the chance to distinguish yourselves by great deeds, but seize the little opportunities as they come. It may be only amusing a fretful child, or helping a dull one to learn a hard lesson, or sewing a rip in an unlucky brother's gloves, or, as these three little fellows did, loaning a pair of skates; but believe me, no unselfish action is ever done in vain. A word about our puzzle department before closing. I am pleased that many new ones have added their names to our list of nephews and nieces, and thank them for their kind New Year's greetings and letters, some of which I shall publish. I cannot say the puzzles sent in were at all satisfactory, but hope you will improve, and by next month I shall receive a first-class collection. UNCLE TOM.

Puzzles.

1—SQUARE WORD.
A harbor; to idolize; franchises; to build; songster's home. MARY E. HARAGAN.

2—ILLUSTRATED REBUS.



3—TRANSPOSITION.

Ywh od liness os fto lerep su.
Grihbt ysee runt rou gilfnsee locd.
Hwta si ti ath moeso ot letl su.
Lal tath ligerstt si ton lodg.
ANNIE B. S. SCOTT.

4—HIDDEN ADAGE.

Are you going to church, Alfred?
Ask if you may come home with us.
He is a tall, loafish looking fellow.
What did you intend to wish for?
We all bet Teresa would win the prize.
We met a little girl with an old, blind man.
Edwin got a new book to read at noon.
The man with the sabre advanced slowly.
ADA ARMAND.

5—CHANGED HEADINGS.

An animal—a small vessel.
To contend—a falsehood.
To overspread—an admirer.
To educate—part of the head.
A small animal—a path.
A rent—dread.
Metal coined—a sweet substance.
ADA HAGAR.

6—DIAMOND.

A consonant; a pronoun; a blaze; operating; planned; a dramatist; expectations; the allotted age of man; a trick; a limb of the body; a vowel. ANNIE M. SCOTT.

7—ENIGMA (two words).

My first is in slap, but not in box,
My second is in ape, but not in fox,
My third is in shape, but not in form,
My fourth is in cyclone, but not in storm,
My fifth is in shoes, but not in boots,
My whole are two very nice fruits.
HARRY A. WOODWORTH.

8—DROP-VOWEL PUZZLE.

Th-f-r-st h-s sp-lls t-nch-nt m-
Th-m-nt-n h-s p-w-r t-n th-n-ll
B-t th-gr-c-f-w-ys-d-bl-s-m
C-n st-r my h-r-t d-p-r th-n-ll.
HATTIE KIRKLEY

9—ENIGMA.

My first is in mule, but not in donkey,
My second is in baboon, but not in monkey,
My third is in spear, but not in lance,
My fourth is in England, but not in France,
My fifth is in beet, but not in carrot,
My sixth is in poll, but not in parrot,
My seventh is in eagle, but not in hawk,
My eighth is in yard, but not in dock,
My ninth is in often, but not in seldom,
My whole of a country is an emblem.
WILL THIRLWALL.

10—SQUARE WORD.

A bird; dimensions; to use; a city in Asia.
WILL THIRLWALL.

11—CHANGED HEADINGS.

Change bell to seal in three moves.
Change park to fare in three moves.
Change help to lend in four moves.
Change cold to warm in four moves.
ALICE HUME.

Answers to January Puzzles.

- 1—Relieve—believe.
Pillow—billow.
Carrot—parrot.
Bean—mean.
Roast—boast.
- 2—Another year with all its hopes and fears,
Has sunk into the deep abyss of time;
And on the threshold of a new one stand,
Like travellers to some strange and distant clime.
- 3—Tale, male, mole, more, morn.
Call, cell, sell, seal, seat.
Mund, mine, mane, lane, lame.
Leap, lean, mean, moan, moon.
- 4—There was never an evil if well understood,
But what rightly managed will turn to a good.
- 5—

H	N
HAS	PEN
HAPPY	POWER
SPY	NEWYEAR
Y	NEEDY
	RAY
	R
- 6—There are none so deaf as those who will not hear.

9—Con
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Names
Cor

- Mary I
- H. Foste
- Willie B
- inson, A
- Buchanan
- Mary M
- Achison
- Henry R
- Lottie A
- Clara M
- Jane L
- Haragan,
- E. J. C
- Edmund
- I. J. Stee
- Tillie Ho
- Danl. G
- Emma D
- worth, S
- Howes, V

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priest of

7— a s H e s.
s W e L l.
b r O w n.
a N e G g.
g i F t s.
b E L l e.
j e L l y.
p r O W l.

8— B
TEA
BELLE
ALE
E
R
PIN
RIVER
NEW
E

9—Come *thither*, boys, with the basket; John can carry it; he is the strongest.

She spilled ink on her *pin afore*; he came in afore you did.

What is making that *grating* noise? I think it is a *rat* in that box.

He did it merely to *gratify* his vanity. That *rat*, if let alone, will gnaw a hole in the wall.

Names of Those Who have Sent Correct Answers to January Puzzles.

Mary McArthur, Belle Richardson, Charles H. Foster, Fred D. Boss, Will. Thirlwall, Willie B. Bell, Anna Wilson, Albert E. Robinson, Ada Hagar, Frank Milne, Josie E. Buchanan, Wm. Webster, Aggie Willson, Mary Morrison, Annie M. Scott, Johnnie Atchison, Georgia Smith, J. W. Danbrook, Henry Reeve, Robt Kerr, Annie B. S. Scott, Lottie A. Boss, Thos J. Lindsay, Robt J. Risk, Clara McLean, Hattie Kirkley, Ada Manning, Jane L. Martin, Minnie A. Colpitts, Mary E. Haragan, Lottie A. Sewell, E. W. Hutchison, E. J. Clark, Mary Silcox, Minnie Stevens, Edmund Pepper, Alice Hume, Robert Wilson, I. J. Steele, Esther Louisa Ryan, Becca Lowry, Tillie Hodgins, Sophia H. Fox, Alice Mackie, Danl. G. Parker, Sarah E. Fuller, Ada Armand, Emma Dennee, Wm Jackson, Harry A. Woodworth, Sarah H. Pickett, Stella L. Pepler, John Howes, Walter A. Inglehart, Wm A. Laidman.

Foster Brook, Pennsylvania.

DEAR UNCLE TOM.—I am spending the winter very pleasantly out among the Bed Rock Mountains. Our cottage is in a valley surrounded by high hills, which are covered with wintergreen berries from one year's end to another. During the winter months the berries swell very large, and they are delicious fruit in the spring. There is a great deal of iron ore here, and also a great deal of snow. We live in a very small house with only four rooms; but for all that it is very cosy. I look forward with much pleasure every month for the coming of the ADVOCATE. M. ADA T.

Huntingdon, P. Q.

DEAR UNCLE TOM.—I would like to know how old is the festival of St. Valentine's Day? I have painted some little cards myself, and am going to send them to my schoolmates. I think that is better than saving them, even if I cannot make them quite so pretty. I am going to copy a little verse on the back of each one. Mamma has chosen the verses for me.

E. G. J.

There is no clear record of the origin of St. Valentine's Day. St. Valentine himself was a priest of Rome who was martyred some time

during the third century, but he had nothing to do with the peculiar observance of his day. In ancient Rome a great part of the month of February was devoted to feasts in honor of Pan and Juno, during which the young men drew by lot the name of their companion for the festivities. It is supposed that this ancient custom changed gradually into the present observance of the day. Many allusions to St. Valentine's Day are found in English poetry of the earliest date, as the festival was much more generally observed four centuries ago than now.

Don't.

Don't go to bed with cold feet. Don't sleep in the same under-garments that are worn during the day. Don't sleep in a room that is not well ventilated. Don't sit or sleep in a draught. Don't lie on the left side too much. Don't lie on the back, to keep from snoring. Don't try to get along with less than seven or eight hours' sleep out of twenty-four. Don't jump out of bed *immediately* on awaking in the morning. Don't forget to rub yourself well all over with crash towel or hands before dressing. Don't forget to take a good drink of pure water before breakfast. Don't take long walks when the stomach is entirely empty. Don't start to do a day's work without eating a good breakfast. Don't eat anything but well-cooked and nutritious foods. Don't eat what you don't want just to save it. Don't eat between meals, nor enough to cause uneasiness at meal-time. Don't eat the smallest morsel unless hungry, if well. Don't try to keep up on coffee or alcoholic stimulants, when nature is calling you to sleep. Don't stand over hot-air registers. Don't inhale hot air, or fumes of any acids. Don't fill the gash with soot, sugar, or anything else to arrest the hemorrhage when you cut yourself, but bring the parts together with strips of adhesive plaster. Don't wear thin hose or light-soled shoes in cold or wet weather. Don't strain your eyes by reading on an empty stomach or when ill. Don't ruin your eyes by reading or sewing at dusk, by a dim light, or flickering candle, or when very tired. Don't sing and hollow when your throat is sore or you are hoarse. Don't drink ice-water when you are very warm, and never a glassful at a time, but simply sip it slowly. Don't take some other person's medicine because you are similarly afflicted. Don't bathe in less than two hours after eating. Don't call so frequently on your sick friend as to make your company and conversation a bore. Don't make a practice of relating scandal, or stories calculated to depress the spirits of the sick. Don't forget to cheer and gently amuse invalids when visiting them. Don't call on your sick friend and advise him to take some other medicine, get another doctor, eat more, eat less, sit up longer, go out more frequently, stay a week, or talk him to death before you think of leaving.

He Reverenced the Turkey.

Landlady—"Are you enjoying your dinner, Mr. Dumley? I trust you are fond of turkeys?" Dumley (struggling with a drumstick)—"The word 'fond,' in connection with this bird, my dear madam, does not adequately express my feelings. 'Revere,' I think, is better."—[Exchange].

Little Ones' Column.

Lily's Ball.

Lily gave a party,
And her little playmates all,
Gayly dressed, came in their best
To dance at Lily's ball.

Little Quaker Primrose
Sat and never stirred,
And, except in whispers,
Never spoke a word.

Tulip fine and Dahlia
Shone in silk and satin;
Learned old Convolvulus
Was tiresome with his Latin.

Snowdrop nearly fainted
Because the room was hot,
And went away before the rest
With sweet Forget-me-not.

Pansy danced with Daffodil,
Rose with Violet;
Silly Daisy fell in love
With pretty Mignonette.

But when they danced the country-dance,
One could scarcely tell
Which of these two danced it best—
Cowslip or Heather-bell.

Between the dances, when they all
Were seated in their places,
I thought I'd never seen before
So many pretty faces.

But of all the pretty maidens
I saw at Lily's ball,
Darling Lily was to me
The sweetest of them all.

And when the dance was over,
They went down stairs to sup,
And each had a taste of honey-cake,
With dew in a buttercup.

And all were dressed to go away
Before the set of sun;
And Lily said "Good bye!" and gave
A kiss to every one.

And before the moon or a single star
Was shining overhead,
Lily and her little friends
Were fast asleep in bed.

A Queer Rag-bag.

Aunt Mary kept her rags in a large, green bag. It had once covered Uncle John's big bass-viol.

One day Aunt Mary said that the rag-bag was very full, and they must sell the rags to the ragman. Jane needed a new bread pan.

The ragman called for the rags, and Jane carried down the bag.

"You have a fine lot here," he said. "I will weigh them in the bag."

So he weighed them.

"Just two shillings," said he; "now I will put them in my cart."

When he did so, Aunt Mary heard him use a strange word.

"That beats all I ever saw!" said the rag man.

Aunt Mary ran out. Jane followed her, with Uncle John's two boys.

"Dear me!" said one.

"Did you ever?" said another.

"What can it be?" added Aunt Mary.

And there was "Malta," the cat, in the rag-bag, with two of the prettiest kittens you ever saw.

She had been missing for three weeks. The boys had asked all the neighbors about her. They even went to the police station, and the kind inspector said, "We will do all we can to find your pet."

All this time she was sleeping with her babies in the rag-bag. The boys thought she must be starved. Malta looked fat and wise.

"I know," said Jane; "she has taken some of baby's milk. I put it on the table every night, and in the morning it was all gone."

"That was it," said Aunt Mary, "for sometimes baby did not wake up."

"She must have eaten mice, too," said Fred, "for they have all left our room."

Then the ragman had to weigh the rags again without Malta and her babies, and Aunt Mary did not get two shillings.

The ragman said he would give them two shillings for the cat and her babies.

"Sell Malta!" said the boys. "Why we would just as soon think of selling mother."

Tommy's Valentine.

BY MRS. M. D. BRINE.

He was only a little street sweeper, you know,
Barefooted, and ragged as any could be;
But blue were his eyes as the far-off skies,
And a brave-hearted laddie was Tommy Magee.

But it chanced on the morning of Valentine's Day

Our little street sweeper felt lonely and sad;
"For there's no fun," thought he, "for a fellow like me,
And a valentine's something that I never had."

But he flourished his broom, and the crossing made clean

For the ladies and gentlemen passing his way;
And he gave them a smile, singing gayly the while,

In honor, of course, of St. Valentine's Day.
Now it happened a party of bright little girls,
All dainty and rosy, and brimming with glee,
Came over the crossing, a careless glance tossing

To poor little barefooted Tommy Magee.

But all of a sudden then one of them turned,
And running to Tommy, thrust into his hand,

With a smile and a blush, and the whispered word "hush,"

A beautiful valentine. You'll understand
How Tommy stood gazing, with wondering eyes,

After the group of wee ladies so fine,
As with joy without measure he held his new treasure;
And this is how Tommy got his valentine.

"Is it possible, Miss, that you do not know the names of some of your best friends?" inquired a gentleman of a lady. "Certainly," she replied; "I don't know what my own will be a year hence."

Old gentleman (looking at a very bobtailed horse): "Bless me, how short they have cut his tail." Attendant: "His master is a member of the Society for the Protection of Animals, sir. In this fashion he will not annoy the poor flies."

A lady whose conscience was softened by a recent revival, called on a clergyman, in a remorseful spirit, to tell him she had spoken disparagingly of his sermons. "That's nothing, my child," was the reply, "I don't think much of them myself."

A Lord of Creation.

It will take a good deal of civilizing to put into an Indian's head the idea that a squaw should be everything but a servant to her husband. The habits of one of these copper-colored lords of creation is brought out by a western paper:

A lady residing in the northeastern part of the town recently wanted the services of an Indian to pick a goose. She approached the first one she met with;—

"Jim, you like to come and pick a goose for me?"

The noble red man thus addressed drew himself up to his full height, expanded his chest with pride and indignation, and haughtily inquired,—

"You know me?"

"No, I don't know you," responded the lady, somewhat surprised.

"Ugh!" grunted the Indian, as if pitying her ignorance, "me Captain Sam. Me no pick goose. Me send my wife."

Long-Lived.

Fifty years ago tomatoes were sold under the name of "love apples," as a vegetable curiosity. They were used for ornamenting mantelpieces, and occasionally one was given to a child to play with, on condition that he would not bite into it, as it was thought to be poisonous. The first person in Newport to eat the tomato was an Italian painter named Corne.

"There," he used to say to those who expressed their surprise at his eating the suspected vegetable, "is that potato! He grow in de dark, or in de damp cellar, with his pale, lank roots. He has no flavor; he live under ground. But de tomato, he grow in de sunshine; he has de fine rosy color and exquisite flavor; he is wholesome; and when he is put in de soup, you relish him, and leave nothing in de plate."

The author of "Reminiscences of Newport" has preserved several anecdotes of this Italian, who introduced the tomato to Newport tables. One of them illustrates the fact that "life tables" are based on the average duration of life, and that some persons, like Sir Moses Montefiore, apparently set the ordinary laws of longevity at defiance.

In his seventy-third year Corne was persuaded to buy an annuity. The Massachusetts Hospital Life Insurance Company, on his payment of one thousand five hundred and seventy dollars, agreed to pay him one hundred dollars every six months during his life. The old man lived fifteen years to enjoy his annuity. He received in all three thousand dollars, much to the surprise and loss of the company. As the cashier was called upon, year after year, to make payments to this persistent annuitant, it seemed as if the company had caught a Methuselah.

With a laugh that almost choked him, the old Italian used to say, as he received his semi-annual check,—

"De Prezzedent he say he very glad I so well, but I know he lie all de time. He not know how macaroni, how much oil, how much tomato I eat. My grandfather he die when he one hundred, my father when he one hundred and two, and I—I live forever!"

The Day is Done.

The day is done, and the darkness
Falls from the wings of Night,
As a feather is wafted downward
From an eagle in his flight.

I see the lights of the village
Gleam through the rain and mist,
And a feeling of sadness comes o'er me
That my soul cannot resist:

A feeling of sadness and longing,
That is not akin to pain,
And resembles sorrow only
As the mist resembles the rain.

Come, read to me some poem,
Some simple and heartfelt lay,
That shall soothe this restless feeling,
And banish the thoughts of day.

Not from the grand old masters,
Not from the bards sublime,
Whose distant footsteps echo
Through the corridors of Time.

For, like strains of martial music,
Their mighty thoughts suggest
Life's endless toil and endeavor;
And to-night I long for rest.

Read from some humbler poet,
Whose songs gushed from his heart,
As showers from the clouds of summer,
Or tears from the eyelids start;

Who, through long days of labor,
And nights devoid of ease,
Still heard in his soul the music
Of wonderful melodies.

Such songs have power to quiet
The restless pulse of care,
And come like the benediction
That follows after prayer.

Then read from the treasured volume,
The poem of thy choice,
And lend to the rhyme of the poet
The beauty of thy voice.

And the night shall be filled with music,
And the cares, that infest the day,
Shall fold their tents, like the Arabs,
And as silently steal away.

[H. W. Longfellow.]

A gang of Italian laborers near Saratoga were recently cut down ten cents a day. Instead of striking, they cut an inch off their shovel blades at night. The "boss" asked what it meant, and Baldwin's Guide reports that one of the men replied: "Not so much pay, not so much dirt lift; all right, the job last the more long. Italian no fool like Irishman; he no strike."

A son of the Emerald Isle, once riding to market with a sack of potatoes before him, discovered that the horse was getting tired, whereupon he dismounted, put the potatoes on his shoulders and again mounted, saying, "it was better that he should carry the praties, as he was fresher than the poor baste."

Notices.

Wells, Richardson & Co.'s Butter Color has been tried by a number of our subscribers in this vicinity, who pronounce it to be a very excellent article.

Messrs. Thos. Aspen & Son, manufacturers of the Excelsior Fertilizer, whose advertisement appears in another column, offer an excellent article to the farmers of the Dominion. Every farmer whose soil is losing its fertility should experiment with a sack or two.

OUR USEFUL PREMIUMS for 1885.

For One New Subscriber :

YOUR CHOICE OF THE FOLLOWING

Trees especially adapted to the Northwest.

The **Crab Apple**—Two plants by mail, of what is said by Mr. Leslie to be the best in the world. These useful and valuable trees should be planted by all farmers, particularly in the Northwest.

The **Ash Leaf Maple**.—One packet of seed or six plants of this ornamental and hardy tree. For description and illustration see page 297 of October number.

The **Silver Poplar**.—One packet of cuttings or six plants. This tree is of very rapid growth and when dry makes good fire wood. See articles on page 297, October number.

The **Norway Maple**.—One packet of seed or six plants of this beautiful and hardy variety of the maple, a description of which appears on page 297, October number.

Adapted to Southern Ontario.

The **Horse Chestnut** is one of the most beautiful and useful trees grown, of very rapid growth, and for shade or ornament cannot be excelled. One packet of seed from a grand tree owned by the proprietor of this journal, and can be seen from the study window, see page 284 of September issue; or six young plants.

The **Black Walnut**.—Of all timber for making furniture or other useful purposes this is considered the most valuable, and is now very scarce. This excellent timber will pay for cultivation. One package of seed from trees growing on the old homestead of the editor of this paper, or six young trees.

—OR THE—

CHROMOS

Chromo "Life's Voyage."—Or Lithograph "Yes or No." Beautiful pictures, and highly prized by those who have received them.

SEEDS.

A useful collection of **Vegetable Seeds**, ten varieties, and one packet novelties for 1885.

A choice collection of **Flower Seeds**, ten varieties.

STRAWBERRY PLANTS.

Two plants, **Prince of Berries**, said to be the latest and best of the many excellent varieties, and is of the finest flavor lately introduced.

Two plants, **Daniel Boone**.—This plant has grown in favor greatly during the past season, and bids fair to be in great demand, both as to flavor, productiveness and keeping qualities.

Three plants of **James Vick Strawberry**.—In addition to the already favorable opinions expressed about this berry, it has this season averaged fully as large berries as the Wilson, and produced more fruit. One large grower states that he could fill a basket sooner from the James Vick than from any other strawberry.

Two plants of the **Dwarf Juneberry**.—These plants should be in every garden. The plant is very hardy. The fruit ripens early, and in enormous quantities.

Six plants of the **Russian Mulberry**.—The popularity of this plant still continues, and we have decided to give it again for another year.

ROSES.

So very few really good roses are to be found in the country gardens of Canada that we have decided to offer two of the best varieties grown, one a dark crimson and the other a deep yellow. The ordinary price for these roses if bought from florists is 50 cts. to \$1, but we offer your choice of either of the following for one new subscriber :

One plant of the **General Jacqueminot**.—This rose is one of the finest and prettiest; in color it is a rich velvety scarlet, changing to brilliant crimson. The buds of this variety are magnificent, rendering them of especial value for bouquets, and for wearing in the button hole. It is also a good rose for forcing. See issue for April, 1884.

One plant of the **Isabella Sprunt**.—In color is sulphur-yellow. It is a very free bloomer, and is one of the most beautiful of the yellow roses, and in the bud state can scarcely be surpassed. It is of especial value for bouquets, and makes an excellent potting plant.

GRAPES.

One plant of the **Brighton Grape**. Claimed to be the best dark red grape known for general cultivation in Canada.

Or one plant of the **Delaware**, a delicious hardy grape.

Or one plant of the **Clinton**. This is the most hardy of all cultivated varieties; will grow in any part of the country where wild grapes ripen. No grape we have ever yet tried has given us so much satisfaction as the Clinton. We should be pleased to hear that every one of our subscribers had one of these vines planted where the more delicate varieties will not thrive.

The **Lady's Manual of Fancy Work**.—Four hundred illustrations, paper cover, containing a great variety of excellent designs for dress or household decorations. It is a book which will please, and should be in the hands of every lady;

For Two New Subscribers :

YOUR CHOICE OF THE FOLLOWING

Large and beautifully finished

CHROMOS

"Windsor Castle," or "Balmoral Castle."—These fine pictures are 30x24 inches, and form a pretty ornament to any home.

Or Lithograph of **Lorne and Louise**. The picture contains a puzzle which few are able to solve.

The **Novelty Rug Machine**.—Makes rugs, tidies, door mats, etc. Is an entirely new invention. Performs its work satisfactorily, is simple of construction, and can be worked by a child. This little machine not only saves much time and labor, but much of the material used by the use of the ordinary mat hooks. For making Turkish rugs it cannot be excelled. Every housekeeper should have one. See page 307 of October issue.

For Three New Subscribers :

YOUR CHOICE OF THE FOLLOWING :

The **World's Cyclopaedia and Library of Useful Knowledge**.—Giving concise information on nearly every subject. Contains 800 pages, 50,000 references, and 1,200 illustrations, and is an indispensable library of universal knowledge.

The "Household" Special Premium, the new **American Dictionary**.—Contains 1,000 engravings, and more pages than any similar work. No house should be without one.

For Four New Subscribers :

One plant of the **New White Grape, Niagara**, claimed to be the hardest, best and most profitable white grape known for general cultivation in Canada.

OUR RULES.

Each new name must be accompanied with \$1 for the annual subscription.

The premium is for the person who secures the new name, and does not in any way belong to the new subscriber.

All plants, seeds, &c., will be sent free by mail early next spring. Books, chromos, &c., will be mailed free as early as possible after receipt of name. The apple and potato papers will be forwarded by express at cost of receiver.

Send for sample and commence your canvas at once. Sample copies sent free.

Address: **The FARMER'S ADVOCATE, London, Ont.**

Commercial.

THE FARMER'S ADVOCATE OFFICE, London, Ont., Feb. 2, 1885.

The month just closed has been one of very extreme changes of temperature and very severe cold. The latter half of the month especially has been very severe. Business has improved somewhat, and there is a better feeling, with the general impression that bottom has been reached, and that from this on we may look for some improvement in trade and commercial circles.

WHEAT

Has awakened from the long stage of lethargy into which it has been for months past and prices have advanced all along the line of breadstuffs. There seems to be more disposition to do business, and although the advance has not been very great, still it is quite as much as the trade will stand for some weeks and possibly some months. The coming crop prospects will soon be an important factor in the future course of the wheat market. The "Cincinnati Prices Current" gives some very interesting figures on the course of prices and rates of freight for the past 17 years. From this it will be seen that notwithstanding the loud complaints about high freights, the freights from Chicago to New York are some 15 cents per bushel lower now than 15 years ago.

WHEAT PRICES AND FREIGHTS.

In the comparisons of wheat prices, it is interesting to bring into view the cost of freight from the west to the seaboard, whence the surplus product is shipped to importing markets

abroad. We have maintained, by expressions from time to time, that the wheat prices of the west, freights considered, have been lower this season than during any year since the exportation of wheat has reached proportions of importance.

In 1869-70 the exportation of wheat (flour included) first reached the 50,000,000 bushels point, the highest previous to that year being 30,000,000 in the preceding year. In the following compilation will be shown the annual wheat crops of the United States, and exports (flour included), stated in millions of bushels, with the lowest and average price of No. 2 wheat in Chicago, and average rates of freight from Chicago to New York per bushel of wheat, by lake and rail, with the lowest Chicago price and freight to New York added annually for seventeen years, from 1868 to 1884 inclusive :

Year	Crop. Millions.	Exports. Millions.	Lowest price.	Ave. price.	Freight to N. Y.	Freight & price.
1868	224	30	104	170	29	133
1869	260	54	76	111	25	101
1870	236	53	73	97	22	96
1871	231	40	90	121	25	124
1872	250	52	101	125	28	129
1873	281	94	89	117	26	115
1874	309	73	81	108	16	98
1875	292	76	88	98	14	97
1876	289	57	88	102	11	94
1877	364	93	101	127	16	117
1878	420	149	77	96	11	88
1879	449	181	81	99	13	94
1880	438	186	86	105	15	102
1881	380	122	95	115	10	105
1882	504	149	91	118	10	103
1883	420	111	90	101	11	101
1884	513	...	69	82	8	79

In the above, the exports are for twelve months beginning on July 1 of the year stated. The freight rates for 1884 are the average from January 1 to September 1.

Our table shows that the figures indicating the Chicago lowest price and average freight to New York by lake and rail was 79½ cents in 1884, compared with 88½ in 1878 as the lowest of similar figures in previous years, and compared with an average of \$1.01½ for five years from 1879 to 1883 inclusive, 99½ cents from 1874 to 1878, and \$1.16 for six years from 1868 to 1873, the average for sixteen years from 1868 to 1883 inclusive being \$1.06½.

These comparisons we believe will be found interesting by the trade, and we take pleasure in being able to offer the same, as affording exhibits with reference to price and freights which have not previously been given from any other source.

The wheat acreage in Great Britain for the crop of 1885 promises to be about 15 per cent. less than for the crop of 1884, and in eight winter wheat States there will be a probable decrease in the wheat acreage of about 13 per cent.

The stock of wheat in the State of California January 1st, was some 27,000,000 bushels. There is not tonnage enough on the coast and on the way there to move this crop, and a large quantity will have to be held over for another season.

LIVE STOCK.

There have been some very severe losses on the cattle ranches in Idaho, Washington, Montana, Colorado and Texas, from cold and snow. What the percentage of loss will be cannot be known for some time. The ranch men in our own Northwest country claim that their cattle have escaped these storms so far.

The Montreal Gazette gives the British live stock trade as follows, on Jan. 27th :

"CATTLE WEAK AND HALF A CENT LOWER—SUPPLIES HEAVY AND DEMAND VERY WEAK TO-DAY—SHEEP NOMINALLY UNCHANGED.—Since this day week the British cattle trade has received a severe set back, which has resulted in a decline in values amounting to half a cent per pound, and our special cables to-day report the markets in a semi-demoralized condition, much of the late improvement having been lost. Much of the altered aspect of affairs is due to the large increase in the offerings, which to-day were heavy and served to give the market a weak tone, which made it difficult to maintain values. The receipts of Canadians and Americans have considerably increased, in fact were heavy, and there has also been an increase in the supplies from other sources. The offerings at all the principal markets to-day were heavy, and the advantage altogether on the side of buyers, who were enabled to make their own terms to a great extent. At Liverpool prime Canadian steers have declined to 14c per pound, against 14½c on January 19, 14c on January 12, 13½c on January 5, 14c on December 29, 13½c on December 22, 14c on December 15, 14c on December 8, 14½c on December 1, 15c on November 24, 14½c on November 17, 14c on November 10, 14½c on November 6, and 13½c on October 27. Fair to choice grades were at 13½c; poor to medium at 12½c; and inferior and bulls at 9½c to 11c. These quotations are calculated at 480 in the £. The sheep trade has been without new feature, and values remain unchanged. Best sheep at Liverpool to-day were cabled 12c, against 12c on January 19, 12c on January 13, 12c on January 5, 13c on December 29, 13c on December 22, 13c on December 15, 14c on December 8, 14c on December 1, 15c on November 24, 14c on November 17, 14c on November 10 and 15c on November 3. Secondary qualities were at 10c@11c; Merinos at 9½c to 10½c, and inferior and rams at 7c@8½c. Dressed beef in Liverpool is cabled lower at 5½d, against 5½d last week. Mutton is also lower at 4½d, against 5d last week."

BUTTER

Has ruled unusually dull for some weeks, and there don't seem much chance for any improvement with the present stocks, as they are more or less off in flavor, and in many cases summer and store packed butter. When will dealers learn to clear out their butter at some price and get it away and into consumption?

CHEESE

Has ruled very quiet for some time, and the stocks of poor and summer cheese are said to be heavy. There was far too much summer cheese bought by speculators and put into storage. These goods have not been keeping at all well, which, with the very dull state of trade and extremely low price of all other kinds of produce and provisions, has brought about these results.

PRICES AT FARMERS' WAGONS, TORONTO.

	Feb. 1st, 1885.
Wheat, fall, per bushel.....	\$0 81 to 0 82
Wheat, spring, do.....	0 81 0 82
Wheat, goose, do.....	0 67 0 68½
Barley, do.....	0 58 0 71
Oats, do.....	0 53 0 54
Peas, do.....	0 57 0 59
Rye, do.....	0 66 0 69
Beans, do.....	1 00 1 25
Dressed hogs, per 100 lbs.....	5 75 6 00
Chickens, per pair.....	0 60 0 85
Ducks, do.....	0 80 1 00
Butter, pound rolls.....	0 29 0 27
Butter, large rolls.....	0 15 0 13
Turkeys.....	0 75 1 50
Geese.....	0 85 1 00
Cheese.....	0 14 0 15
Eggs, fresh, per dozen.....	0 20 0 23
Potatoes, per bag.....	0 40 0 45
Apples, per bushel.....	1 50 2 25
Cabbages, per dozen.....	0 20 0 25
Turnips, per bag.....	0 35 0 45
Carrots, per bag.....	0 85 0 46

Beets, per bag.....	0 50	0 55
Parsnips, per bushel.....	0 15	0 20
Onions, per bushel.....	70	75
Hay, Clover, per ton.....	7 00	9 00
Timothy.....	11 00	14 00
Straw, do.....	8 00	9 00

New York, Jan. 30th, 1885

Following is the usual cheese table:	Receipts.	Exports.	Cable.	Ft.	Price
Jan. 27, 1883, 12,740	17,971	67s.	45s.	14c.	
Jan. 26, 1884, 24,404	23,085	69s.	30s.	14c.	
Jan. 24, 1885, 12,938	7,104	62s.	13c.		

BUFFALO, Jan. 30, 1885.

CATTLE.—Receipts 10,421, against 9,430 the previous week. The offerings on Monday numbered 155 car loads. The market opened up dull, slow and 15@25 cents per hundred lower than last week for common stock, and 10@15 cents on shipping grades. Sales of good to choice steers ranged from \$5.8 @ \$6.35; fair to medium at \$3.10 @ \$5.40. Stockers were in light supply and limited demand at \$3.25 @ \$3.65. The fresh receipts on Tuesday and Wednesday were light, and with those held over from Monday were all sold, the market closing firm. Of Michigan cattle 13 steers av. 1,267 lbs. at \$4.62; 13 do. av. 1,334 lbs. at \$3.85; 19 do. av. 1,172 lbs. at \$4.50; 10 do. av. 1,361 lbs. at \$5.90; 17 do. av. 1,225 lbs. at \$5.25; 19 mixed butchers' stock av. 1,017 lbs. at \$3.55; 16 do. av. 946 lbs. at \$3.75; 4 oxen av. 1,727 lbs. at \$4.60; 12 do. av. 1,614 lbs. at \$4.25.

SHEEP.—Receipts, 35,600, against 26,800 the previous week. The receipts of sheep on Monday were heavy, there being 110 loads on sale. The demand was slow, and with unfavorable reports from the east, prices fell off 10@15 cents per hundred from those of the previous week. The supply was again large on Tuesday and Wednesday, and closed with a good number left over. Fair to good 70 to 80 lb. sheep sold at \$3.15 @ \$3.60; 80 to 90 lb. \$3.50 @ \$4.00; 90 to 100 lb. \$4.10 @ \$4.50; 110 to 120 lb. \$4.40 @ \$5.00; store sheep, \$2.25 @ \$2.50; lambs, 50 to 70 lb. \$4.50 @ \$6.00. We note sales of 189 Michigan sheep, av. 87 lbs. at \$3.75; 197 av. 88 lbs. at \$3.75; 186 av. 98 lbs. at \$4.40; 222 av. 72 lbs. at \$3.25; 208 av. 89 lbs. at \$4.10; 199 av. 87 lbs. at \$3.65; 163 av. 78 lbs. at \$3.45; 234 av. 84 lbs. at \$3.50; 199 av. 72 lbs. at \$2.50; 69 lambs av. 73 lbs. at \$5.50; 86 do. av. 75 lbs. at \$5.30; 62 do. av. 56 lbs. at \$4.00.

HOGS.—Receipts, 69,735, against 44,628 the previous week. The hog market was pretty much in the same shape as the cattle and sheep. The offerings on Monday were 150 car loads. There was a fair demand, but prices averaged 15@20 cents lower. The market steadied up a little on Wednesday, with 20 to 30 loads left over. Good to choice Yorkers sold at \$4.55 @ \$4.60; fair do. \$4.45 @ \$4.50; medium grades fair to choice \$4.60 @ \$4.65; good to extra heavy \$4.65 @ \$4.75; pigs common to choice \$4.35 @ \$4.40; skips and culis \$3.25 @ \$3.75.

See Stock Notes, page 60.

NEW ADVERTISEMENTS.

ADVERTISING RATES.

The regular rate for ordinary advertisements is 25c. per line, or \$3 per inch, nonpariel, and special contracts for definite time and space made on application.

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

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BOND & BROWNE, Managers, P. O. Box 166, Montreal.

NEW Raspberry Marlboro, Circulars giving full description and prices together with a colored plate of the Gooseberry free.

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IMPORTANT PUBLIC SALE OF SHORTHORN CATTLE & SOUTHDOWN SHEEP at Oakland Farm, Kettleby, Ont., on FEBRUARY 18th, 1885.

The subscriber will offer for sale at the above farm about 25 head of Cows, Heifers and Bulls, including specimen descendants from the stock of the Hon. Samuel Campbell, of the New York Mills great sale of Sept. 10th, 1873, also from Campbell, of Kinnear, and other eminent breeders in Ontario; also about 30 Southdown Ewes, Ewe Lambs and Rams, bred direct from imported stock—the rams used have been bred from Webb's, Walsingham's and Prince of Wales stock.

Oakland Farm is 4½ miles from Aurora Station, on N. & N. W. R. R., 30 miles north of Toronto. Teams will be in waiting at Aurora on morning of sale.

Catalogues on application to

229-b **SETH HEACOCK, Kettleby, Ont.**

ANNUAL AUCTION SALE

PURE BRED SHORTHORN CATTLE

Under the auspices of the

BRITISH-AMERICAN SHORTHORN ASSOCIATION.

A large number of valuable cattle will be offered at the above sale, which will be held in

TORONTO, ON WEDNESDAY, FEBRUARY 25th, 1885!

Rules of sale similar to last year. No reserve bid other than catalogue price. For further information apply to

R. L. DENISON, Secretary, 64 King St. East, TORONTO.

228-d

British American Shorthorn Breeders' Annual Sale.

Arthur Johnston, of Greenwood, Ont., will sell at the above sale on February 25th, 1885, in Toronto, 3 first class imported Shorthorn bull calves, and 3 first class Shorthorn home-bred bull calves. All fit for service. 230-a

AUCTION SALE.

I WILL SELL BY PUBLIC AUCTION AT MY residence, one mile East of the Town of

ST. MARY'S,

ON MARCH 4TH, 1885,

30 Head of Durham Cattle

Among them a number of fine young Bulls.

Many of the cattle are imported, and were very successful at the Western Fair this fall.

As I have rented my farm for a number of years, everything will be sold without reserve.

Catalogues on application to the proprietor.

HUGH THOMPSON,

Drawer D, St. Mary's P. O., Ont.

ALEX. BROWN, Auctioneer. 230-a

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All stock selected from the get of sires and dams of established reputation and registered in the French and American Stud Books. We have a very large number of imported and grade Stallions and brood mares on hand. Prices reasonable.

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230-c



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If you intend planting Apple, Peach, Pear, Plum, Cherry, or any kind of fruit trees, Grape Vines, Currants, Gooseberries, Blackberries, Raspberries, Strawberries, or fruits of any kind, it is for your interest to get them direct from the grower; you will get them in better order, and for less money, than from agents, and be sure of what varieties you are getting. I am offering great inducements to farmers clubbing together and taking large quantities.

NIAGARA GRAPE A SPECIALTY
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 Strawberries, Raspberries, Blackberries, Dewberries, Mulberries, Grape Vines, Kieffer Pears, Peach and Plum trees. Send for new Illustrated Catalogue, Free.
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 Satisfactory and beautiful portraits painted from small photographs. Write for sizes and prices of pictures.
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The government will defray the cost of freight in conveying Canadian Exhibits to Antwerp, and from Antwerp to London, and also of returning them to Canada in the event of their not being sold.

All Exhibits for Antwerp should be ready for shipment not later than the first week in March next. These Exhibitions, it is believed, will afford favourable opportunities for making known the natural capabilities, and manufacturing and industrial progress of the Dominion.

Circulars and forms containing more particular information may be obtained by letter (post free) addressed to the Department of Agriculture, Ottawa.

By order,
JOHN LOWE,
 Secy., Dept. of Agric.
 Department of Agriculture,
 Ottawa, December 19th, 1884. 230

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Ordinary Fencing Barb, 7 inches apart; Hog Wire Fencing Barb, 4 inches apart; Plain Twisted Wire Fencing, without barb, at reduced prices.

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SEED GRAIN!

PRIZE CLUSTER OATS—Entirely new from Europe. Tested three years in Canada. The best, earliest, largest, heaviest, strongest strawed and most productive early white oats in cultivation. Weighs 46 to 52 lbs per bushel. Price, \$2 per bushel.

BLACK CHAMPION—The best, blackest, heaviest, largest, thinnest hulled oats in cultivation. Sold last year at \$30 per bushel. Price, \$2 per bushel.

GOLDEN BEARDLESS BARLEY—Strong straw, largest white berry, 48 to 56 lbs per bushel, 40 to 70 bush. per acre. Excellent for malting. A grand success. Price, \$1.50 per bushel.

Egyptian Oats, Triumph Wheat, Rennie's Barley, Pearce's Prolific Corn, and a great variety of Seed Potatoes. Send for Catalogue.

ROBERT BELL, Jr.,
 Box 38, Hensall, Ont.

Stock Notes.

M. C. Campbell, of Myrtle Heath Estate, Blenheim, Kent Co., sold two very fine Short-horn bull calves for handsome prices.

Our readers who are desirous of procuring good stock should not fail to attend the public sale of Shorthorn cattle and Southdown sheep advertised in another column by Mr. Seth Heacock, of Kettleby, Ont.

In this issue we call our readers' attention to the sale advertisement of the British American Shorthorn Association, to take place in Toronto on the 25th of February, when some fine stock will be offered for sale.

Mr. Hugh Thompson, of St. Marys, Ont., is about to retire from the stock business for a few years, and offers his entire stock for sale on March 4th, 1885, many of which are very choice animals.

The Ayton Stock Breeders' Association have just placed in quarantine at Point Edward eleven Friesians—one bull and ten cows, imported by the Association direct from North Holland.

Less new men are engaged in the cattle business on the plains just now than at any time for some years. At the same time few if any old ones are leaving it. Raising has been reduced to a solid, systematic, every-day industry.

CATTLE DISEASE IN ENGLAND.—The Farmer's Gazette of Jan. 3rd says: "A serious outbreak of pleuro-pneumonia has occurred amongst a herd of over 100 head of grazing cattle in Byram Park, Yorks, the property of Sir John W. Ramsden. Two of the beasts died, three have been slaughtered under the direction of the chief veterinary inspector of the west riding, and Byram Park has been declared as an infected area."

"Bow Park" Farm, Brantford, Ont., has fallen into the hands of Messrs. Thos. Nelson & Sons, who have purchased the entire herd of magnificent Shorthorns. They intend to increase their stock by fresh importations from England, and they are resolved upon enhancing the reputation of the herd, if it is possible to add to its already wide spread renown. The able and affable manager, Mr. John Hope, has been engaged for three years to continue the management.

James I. Davidson, Balsam P. O., Ont., reports that he sold 23 Shorthorns of last year's importation, which consisted of 31 females and 21 bulls, viz., two heifers to Messrs. Wm. F. and G. A. Hays, Maryland; one heifer to Wm. C. Norton, Iowa; one bull and ten heifers to Col. Harris, Kansas; one bull to Messrs. Irvine and McGill, Janetville, Ont.; one bull to Mr. John Adams, Ambleside, Ont.; one bull to Mr. Joseph Moffat, Illinois; one heifer to Mr. A. Crawford, Iowa; one bull and two heifers to John N. Coldren, Banker, Iowa City; two heifers to Messrs. Swain and Son, Indiana. The demand for good Shorthorns was never better, and people are willing to pay good prices.

Mr. T. G. Nankin, of Shade Park Stock Farm, has added to his choice herd of Ayrshire cattle two more cows, by purchasing from Mr. Thos. Guy & Son the cows "Queen" and "Sunbeam." Mr. Nankin reports the following sales of swine: A. Oswald, Berlin, Ont., 1 Chester White boar; Geo. Hawtin, Newmarket, Ont., 1 pair of Chester Whites; Jno. Hord, Parkhill, Ont., 1 Yorkshire boar; W. R. Bell, general manager of the Bell Farm, N. W. T., 1 pair of Chester Whites; David Hart, of Fleetwood, Ont., 1 pair of Chester Whites; E. B. Eddy, Hull, P. Q., 1 Chester White boar; Jas. S. Muselman, Conestogo, Ont., 3 Jersey Red swine; T. L. Dunkin, Norwich, Ont., 3 Chester White swine. He also reports another importation of English Yorkshire pigs of the smaller breed, add a consignment of White Lancashires. (Continued on Page 62.)

If you feed your farm, it will feed you; if you feed it well, it will feed and clothe you; if you feed it according to the best known methods, it will feed, clothe, and educate you, leaving a handsome balance to meet contingencies.

SEEDS

SIMMERS' SEEDS Are the BEST SEEDS Are entirely the product of Reliable Growers, and are unsurpassed by any in world for purity and reliability. **Simm器的 Cultivator's Guide** containing 150 pages useful information, with prices, mailed on receipt of address.

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18 PACKETS CHOICEST FLOWER SEEDS FOR 50 CENTS, one each, of *Antoni, Balsama, Paganini, Portulaca, Phlox, Pansy, Verbena*—all finest strains and most beautiful colors. *Large Double English Holly, New Dwarf Marigold, extra large double Marigold, bright colors.* One fine ornamental grass. One splendid climbing plant. One beautiful Everlasting Flower. 12 pkts for 50 cts. TWO collections for 50 cts. Packets are regular size, with directions for cultivating. Our beautifully illustrated and descriptive Catalogue is sent each order. Address all orders to **SAMUEL WILSON, GROWER, MECHANICVILLE, PENNSYLVANIA.**

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Seeds at **AT WHOLESALE PRICES.** In order to introduce this wonderful potato into 50,000 homes free of cost, we make the following unprecedented offer: In postage stamps or money, we will send by mail a box **FOR 60 CTS.** containing, first, 17 packets, one each, of the following new, highly improved, and guaranteed seeds:—*Dewling's Improved Blood Turnip Root*, best and earliest for table use. *Wilson's Highly Improved Washington Cabbage*, best and earliest; good for late. *New Golden Self-Blanching Celery*, excellent quality, early grown; needs no banking up. *Early Green Prolific Cucumber*, best as cucumbers or pickles. *New Pius Ultra Sugar Corn*, productive, early, tender, and sweet. *New Golden Heart Lettuce*, best for heading; good all summer.

THE GREAT IRON CLAD WATERMELON. largest, finest, sweetest, best-keeping watermelon in the world. *Orange Cream Muskmelon*, sweet, spicy, and delicious. *New Silver Ball Italian Onion*, beautiful, large, mild; grows 8-pound onions from seed. *Baby King Pepper*, largest, finest, sweetest pepper ever seen. *Abbott's Sugar Parsnip*, greatly improved variety. *Ohio Sweet Potato Pumpkin*, enormously productive, excellent quality; keeps all winter. *French Breakfast Radish*, best of all early radishes. *White Pineapple Squash*, extra quality, good for summer or winter. *New Cardinal Tomato*, largest and smoothest of any. *White Golden Beauty Corn*, most beautiful and productive of any in the country. Second, 17 packets of the earliest and most valuable of all seeds:—**THE STRAY BEAUTY, POTATO** in a medium-size tuber of 1 lb. weight, excellent quality, beautiful as an oil painting, ever yet seen; very productive.

OUR PROPOSITION is to give you all these seeds for 60 cts. This is an offer never made before. To gladden the heart and brighten the way of every tiller of the soil and lover of the beautiful has met with such unbounded success that we renew it with a more tempting offer, and here let us say we grow these seeds by the pound, by the bushel, and by the sack, and are specially prepared for **HIGH LANDS AND LOW LANDS.** Prices and full particulars on application. **SPECIAL QUOTATIONS FOR QUANTITIES TO SOW OVER 100 ACRES.**

18 PACKETS CHOICEST FLOWER SEEDS FOR 50 CENTS, one each, of *Antoni, Balsama, Paganini, Portulaca, Phlox, Pansy, Verbena*—all finest strains and most beautiful colors. *Large Double English Holly, New Dwarf Marigold, extra large double Marigold, bright colors.* One fine ornamental grass. One splendid climbing plant. One beautiful Everlasting Flower. 12 pkts for 50 cts. TWO collections for 50 cts. Packets are regular size, with directions for cultivating. Our beautifully illustrated and descriptive Catalogue is sent each order. Address all orders to **SAMUEL WILSON, GROWER, MECHANICVILLE, PENNSYLVANIA.**

PERMANENT PASTURE

RENNIE'S MIXTURES FOR PERMANENT PASTURE

have been prepared from prescriptions based on a practical experience of 16 years, and have given the most complete satisfaction to purchasers in former years. The mixtures contain the best and most nutritious GRASSES and CLOVERS, and are specially prepared for **HIGH LANDS AND LOW LANDS.** Prices and full particulars on application. **SPECIAL QUOTATIONS FOR QUANTITIES TO SOW OVER 100 ACRES.**

RENNIE'S MIXTURES FOR ALTERNATE HUSBANDRY

produce very heavy crops of hay, and are strongly recommended for more general use. Prices and full particulars will be found in *Wm. Rennie's Annual Descriptive Seed Catalogue for 1885*, free to all applicants.

WM. RENNIE, Seed Grower, Toronto, Ont.

Feed the Land and it will Feed You!

LAMB'S SUPERPHOSPHATE OF LIME.
LAMB'S FINE BONE DUST.

Send for Circular and Price List.

DEPARTMENT OF AGRICULTURE AND ARTS, ONTARIO.

Toronto, Jan. 21st, 1882.

PETER R. LAMB & CO., Toronto.

GENTLEMEN,—Having requested Prof. Panton, of the Ontario School of Agriculture, to estimate the commercial value of a specimen of your Superphosphate of Lime, based on an analysis made by Prof. Heys, I have the satisfaction of informing you that Prof. Panton reports that he substantially agrees with Prof. Heys' estimation of the commercial value of your Superphosphate.

S. C. WOOD, Treas. of Ontario.

PETER R. LAMB & CO., Manufacturers,

Established 1834.

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TORONTO, ONT.

G. H. PUGSLEY,

IMPORTER AND BREEDER OF

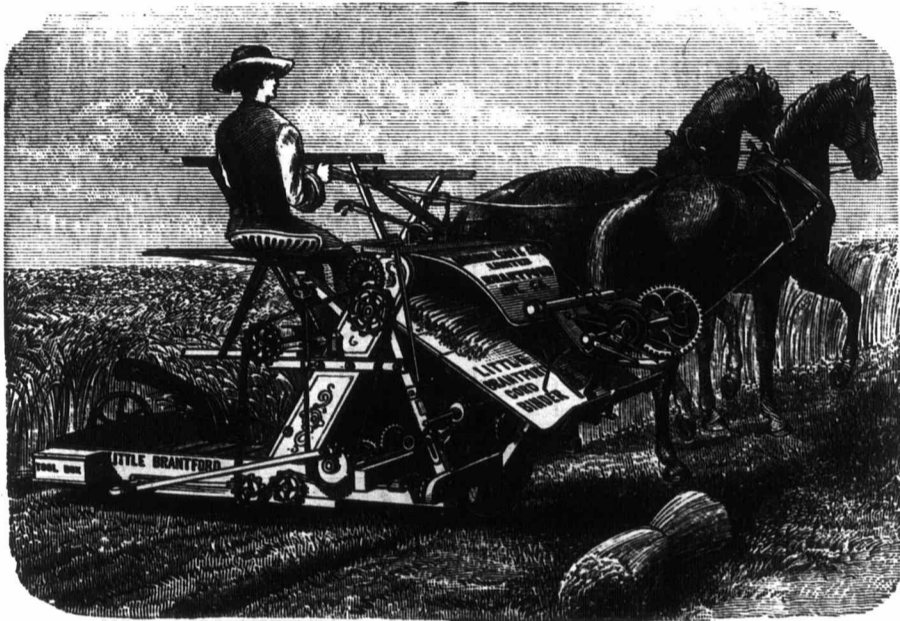
Fancy Poultry, Pheasants, Italian Bees, Fine Bred Dogs, Shetland, Wild and Fancy Ponies, Jersey and Kerry Cattle, Dealer in Fine Carriage and Roadster Horses.
ROSE HILL FARM, BRANTFORD, CANADA

Unrivalled Success at Exhibitions! Thousands of Prizes awarded my Birds! I have bred and sold more Prize Winners the past four years than all breeders in Canada combined, at all the largest shows on the continent, both in Europe and America! Send 25 cents for Illustrated Catalogue, worth hundreds of dollars to every one, with large illustrations of all the varieties of Poultry, with a general description of Poultry, Dogs, etc. Price List of eggs free. *Brahmas, Cochins, and all varieties of Hamburgs and Leghorns, Lang-shans, Black and Mottled Javas, Black Sumatras, Golden Silver and White Crested Black Polish, Plymouth Rock, Games, English Malays, sultans, Silver, Grey and White Dorkins, Laffache, Creveceurs, Houdans, Andalusians, Japanese, Pekin, Golden and Silver Sebright, Black and White Rose Comb Bantams, Pekin, Aylesbury, Rotten, Cayuga, Call, Wood or Carolina and Mandarin Ducks, Bronze and Wild Turkeys, Toulouse, Bremen, Sebastopol and Wild Geese. Golden Silver, Lady Amherst and English Pheasants, Red Birds, Parrots and Canaries, English Lop Eared and Angora Rabbits, White Angora Goats, silk fleeco 12 inches long, Dog—St. Bernard, English Mastiffs, English Bull, Bull Terriers, Scotch Collies, Beagles, Cocker Spaniels, Blenheim Spaniels, King Charles Spaniels, English and Italian Greyhounds, Fox Hounds, Fox Terriers, Maltese Toys, Pugs and Scotch Terriers all colors. Trained and white Italian Ferrets.* Postal cards not noticed.

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G. H. PUGSLEY, Mount Pleasant Poultry Yards, Brantford, Can.

— THE —
"LITTLE BRANTFORD"
FOLDING BINDER.



JUST THE MACHINE THAT CANADIAN FARMERS WANT!

Now Used on all the Principal Farms in Canada, including the farm of **The Hon. J. H. Pope, Minister of Agriculture; The Ontario Experimental Farm; The Bell Farm, using 25 Brantford Binders; The Edgely Farm, using 8 Brantford Binders; The Connee Farm, using 6 Brantford Binders; The Bow Park Farm, and many other leading Farms throughout the Dominion.**

Read the Record at Fall Fairs:

MESSRS. A. HARRIS, SON & CO. (Limited), Brantford.

The judges on Self-Binders at the North Brant Agricultural Fair, held in Paris on Tuesday and Wednesday last, awarded the First Prize to the "Little Brantford Binder," exhibited by you. The "Chatham" and the "Watson" Binders were also exhibited, the latter being awarded second prize.

JAMES O'NEAL, Sec. N. B. Agr. Society.

Paris, Ont., Oct. 11, 1884.

MESSRS. A. HARRIS, SON & CO. (Limited), Brantford.

This is to certify that the "Little Brantford" Binder was awarded the first prize at the Annual Fair held at Markham, October 2nd and 3rd. There were four entries, viz.: "The Little Brantford," "The Massey Binder," "The Noxon Binder," and "The Fleury Binder." It was the decided and unbiased opinion of the Judges that the "Little Brantford" was the most convenient and also the best binder on the ground.

JAMES ROBINSON, Sec. Markham Agr. Soc.

Markham, Ont., Oct. 10, 1884.

MESSRS. A. HARRIS, SON & CO. (Limited), Brantford.

I take pleasure in informing you that the "Little Brantford" Binder exhibited at the Midland Central Fair, held at Kingston, Sept. 30th and Oct. 1st, 2nd and 3rd, was awarded the First Prize and Diploma over all the other binders there. The other binders exhibited were "The Massey," of Toronto; "The Maxwell," of Paris; "The Deering," by Watson, of Ayr; "The Minneapolis," of St. Thomas; "The Walter A. Wood," of Smith's Falls, and "The Chatham Binder." The "Brantford Mower" was also awarded First Prize and Diploma.

D. NICOL, Pr s. Midland Central Fair.

Kingston, Ont., Oct., 1884.

MESSRS. A. HARRIS, SON & CO. (Limited), Brantford.

This Diploma was presented to A. Harris, Son & Co. (Limited), Brantford, by the North York Agricultural Society, for the best Self-Binding Harvester (The "Little Brantford") at the exhibition held at Newmarket, October 7th and 8th, 1884. The other binders competing were "The Chatham" and the "The Fleury."

E. JACKSON, Sec. North York Agr. Society.

Newmarket, Ont., Nov. 1884.

Farmers who want the Best Binder in Use, embracing every Modern Improvement and Convenience, will buy the "LITTLE BRANTFORD," and no other.

For further particulars enquire of our Agents, or address us direct.

A. HARRIS, SON & CO. (Limited),

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BRANTFORD, ONTARIO, CANADA.

Catalogues Received.

We have on our table numerous catalogues filled with useful information about different requisites that you are in need of.

Perhaps the most imposing in appearance is that of Peter Henderson & Co., New York. If the cover is an indication as to the contents, the most beautiful, rare and choice plants and seeds should be obtained from them.

Ellwanger & Barry, Rochester, N. Y., give descriptions of a large number of fruit and ornamental trees and shrubs.

W. W. Hillborn's, Arkona, Ont., contains a large and choice list of small fruits.

Geo. Leslie & Son, of Toronto, give descriptions of the largest list of fruit and ornamental trees. This is one of the oldest and best nurseries in Canada.

Wm. Rennie, Geo. Keith, J. A. Simmers, Steel Bros. & Co., of Toronto, and all having high reputation for their seeds.

John A. Bruce & Co., of Hamilton, the oldest and one of the most reliable wholesale and retail houses in Ontario.

Pearce, Weld & Co., London, Ont., noted for their pure seeds and integrity in doing business; also handle dairy goods.

D. M. Ferry & Co., Detroit, who are well known in Ontario and the United States for their good seed.

Samuel Wilson, of Mechanicsville, Pa., U. S. A., has a very complete catalogue of vegetable seeds.

A. Harris & Co., of Brantford, harvesters, reapers, mowers, etc.

J. O. Wisner, Son & Co., of Brantford, drills, rakes, cultivators, etc.

The Ayr American Plow Co., plows, etc.

L. D. Sawyer & Co., Hamilton, threshing machines.

Geo. White & Sons, London, agricultural engines.

Wortman & Ward, London, for hay forks, churns, etc.

M. T. Buchanan, Ingersoll, hay forks and carriers.

Bain Wagon Co., of Woodstock, for good wagons.

If any of our subscribers are undecided where to purchase, we would advise you to send to any of the above firms, and you will find yourselves better satisfied and not half so liable to be taken in, as if purchasing from agents who are selling inferior goods.

THE FARMERS WANTS SUPPLIED.

We are agents for the following implements, which are the best in the market:—

A. Harris, Son & Co., Brantford; Binders, Reapers, Mowers, etc.

J. O. Wisner, Son & Co., Brantford; Drills, Seeders, Rakes, Cultivators, etc.

Syracuse Plow Co., N. Y.; Sulky Plow, Handle Plows, both one and two horse, also Side Hill Plows.

J. Russell & Co., Ingersoll; Hay Loaders, Tredgers, Horse Powers, Straw Cutters, and Crushers.

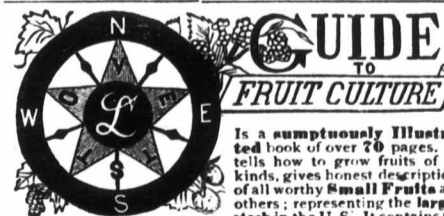
Nash Brothers, New Jersey; Acme Pulverizing Harrow, Clod Crusher and Leveler.

Fleury, Aurora; Root Cutter and Pulper.

Strath, Clinton; Machine Knife Grinder.

SHOWERS & PLUMMER,

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Is a sumptuously illustrated book of over 70 pages. It tells how to grow fruits of all kinds, gives honest descriptions of all worthy Small Fruits and others; representing the largest stock in the U. S. It contains full instructions for planting, pruning and obtaining Fruit Trees and plants. Price, with plates 10c.; without plates 5c. Price lists free. **ESW: pay half the duty on goods going to Canada.**

J. T. LOVETT, Little Silver, New Jersey.

230-a

STOCK NOTES.

(Continued from page 60.)

The health officer at the Chicago Stock yards last year condemned and caused to be sent to the rendering tanks 1978 diseased hogs, 816 diseased and "lumpy jawed" cattle, 463 scabby and emaciated sheep, and 51 slunk calves.

S. S. De Arman, of Franklin, Pa., purchased a last spring's ram lamb of the Shropshire breed at Toronto, Canada, which has been solicited for the World's Fair at New Orleans. The lamb is said to be very fine, and took first premium in class and sweepstakes wherever shown at fairs in the Dominion.

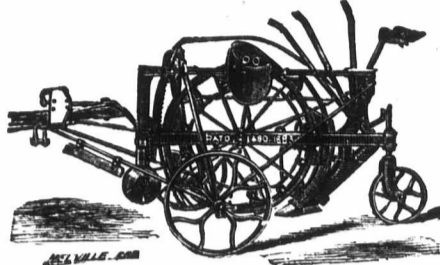
Messrs. Green Bros., The Glen Stock Farm, Innerkip, Ont., have sold another bull Loyalist sired by Cavalier dam Lily, by Royal Bampton. Mr McCloud, Embro, in the county of Oxford, is the purchaser. Two of their imported heifers have given birth to heifer calves, good reds, by their stock bull Earl of Mar, and are very promising.

The large and well known herd of Shorthorns at "Bow Park," Brantford, Ont., has this month had two valuable additions by the birth of a red heifer calf, sired by Duke of Oxford 54th, dam 9th Duchess of Millhurst, and a red heifer calf, sired by 4th Duke of Clarence, dam Duchess of Oxford 20th. Both calves are doing finely. A gentleman from Iowa, who called on us yesterday, says he recently visited this herd for the first time, and was surprised to find such a very high order of merit in the entire herd. He said he was satisfied that this was beyond question the best herd of Shorthorns in America.

We learn from Messrs. R. Rivers & Son, of Springhill Farm, Walkerton, that their stock bull Duke of Hamilton, bred by James Russell, of Richmond Hill, is proving himself a good stock getter. His calves, which are mostly heifers have taken all the highest honors both in Durham and grade classes; also 1st for best four Durham calves from one sire at the Northern this fall; while the Duke himself has not yet been beaten in his class. Their Seraphina heifer, by the 8th Seraph, gave birth to a red bull calf Dec. 28th. The herd, consisting of about forty head of Durham and high grades, are all doing well.

Large numbers of Percheron stallions are being bought in the United States by Canadian breeders to renew the old French blood so highly prized, and also to give quality, style and action to the large English draft and Clydesdale stock which has been bred there so long. More than one hundred Percheron stallions have been sold to Canada during the past two years by M. W. Dunham, "Oaklawn Farm," Wayne, Illinois, the greatest importer of the French race who has imported from France nearly 1,700 head. During the past five months over 600 Percherons have been bought in France and imported to Oaklawn. These purchases have been confined to pedigreed animals recorded in the Percheron stud book of France, the demand by intelligent breeders being almost exclusively for such stock.

There is a rumor of an American company being formed to ship cattle from Texas to this country from the port of Galveston, says the English Live Stock Journal. We shall then, if the scheme is carried out, get Texas fever imported direct from the United States. It is well known that we have on several occasions received at the port of Liverpool animals afflicted with the peculiar splenic disease indigenous to the Gulf Coast, and no ill consequences have followed. They were, however, shipments from the northern ports of the United States and were probably cattle infected with Texas fever, and yet not Texan beasts; and so far as testimony hitherto goes the specific virus of the disease becomes inert after a single propagation. There may be little danger in importing animals suffering from "black water of Texas" infected by Texan cattle, but it becomes a serious matter if infected Texan cattle themselves are landed on our shores.



ELEVATOR DITCHING MACHINE FOR UNDERDRAINING.

One man with The Elevator Ditching Machine can do more work than thirty men with spades.

Manufactured by WM. RENNIE, TORONTO.

TO FARMERS and SHIPPERS

—THE—
American Co-Operative Dairy Company

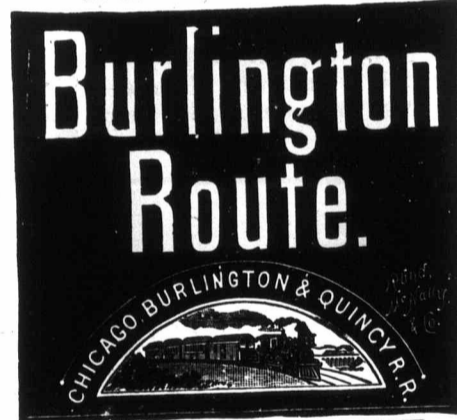
Incorporated May 24, 1884, with a CAPITAL STOCK OF \$100,000

Offer extra inducements for consignors of BUTTER, EGGS, BEANS, CHEESE, POULTRY, GAME, and All Kinds of FARM PRODUCE.

This Company is duly established by law, and farmers, shippers or dealers can depend upon prompt and honest returns for all consignments. For particulars address

J. W. WHITE, Secretary,
31 Beach Street, BOSTON, MASS.
Mention the FARMER'S ADVOCATE. 229-c

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ONLY LINE RUNNING TWO THROUGH TRAINS DAILY FROM CHICAGO, PEORIA & ST. LOUIS,

Through the Heart of the Continent by way of Pacific Junction or Omaha to DENVER,

or via Kansas City and Atchison to Denver, connecting in Union Depots at Kansas City, Atchison, Omaha and Denver with through trains for

SAN FRANCISCO, and all points in the Far West. Shortest Line to KANSAS CITY,

And all points in the South-West.

TOURISTS AND HEALTH-SEEKERS Should not forget the fact that Round Trip tickets at reduced rates can be purchased via this Great Through Line, to all the Health and Pleasure Resorts of the West and South-West, including the Mountains of COLORADO, the Valley of Yosemite, the

CITY OF MEXICO, and all points in the Mexican Republic.

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Should also remember that this line leads direct to the heart of the Government and Railroad Lands in Nebraska, Kansas, Texas, Colorado and Washington Territory.

It is known as the great THROUGH CAR LINE of America, and is universally admitted to be the Finest Equipped Railroad in the World for all classes of Travel.

Through Tickets via this line for sale at all Railroad Coupon Ticket Offices in the United States and Canada.

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IMPROVED FAST CLEANING FANNING MILLS

fitted with Patent Cockle Extractor. Made so as to be shipped in knock-down shape to any station in the Dominion of Canada, freight paid. Easy put together at destination.

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SMALL FRUITS

Cornelia, Daniel Boone, Prince of Berries, Atlantic, Connecticut Queen, James Vick, and other new and old Strawberries.

Marlboro, Beebe's, Golden Prolific, Souhegan, Tyler, Hopkins, Shafers, Hansell and other leading Raspberries.

Early Cluster Blackberry.

Fay's Prolific Currant.

Gooseberries, Grapes, and other Small Fruits.

FIRST-CLASS PLANTS—LOW PRICES

Send for Illustrated Catalogue with Colored Plates free to any address.

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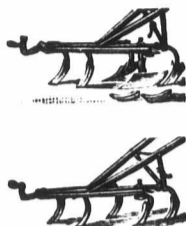
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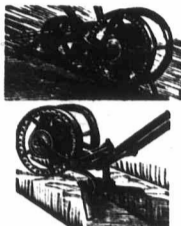
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As lately introduced, has no equal in the world. Its excellent work in the field has distanced that of all competitors. It is, in some sections, doing in one passage, the work of four or five old-style implements, and in others surpassing the cumbersome and expensive two-horse tools. The "PLANET JR" HAND SEED-DRILLS AND WHEEL HOES are the newest and best, lightest and strongest known. There are 7 distinct tools, each with special merits, no two alike or the same price; all practical and labor-saving. Let no Farmer or Gardener fail to study up during the winter evenings our 1885 CATALOGUE, which gives reduced prices, careful and exact engravings of these different machines, and such descriptions as will enable the reader to judge correctly of their merits. Thirty pages and forty engravings. Free to all. Correspondence solicited. S. L. Allen & Co., Mfrs., 127 & 129 Catharine St., Phila., Pa.



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SEED Warranted to Grow.

or order refilled gratis. I have sold vegetable and flower seed to over a million farmers and gardeners in the United States, perhaps some are your neighbors, if so ask them whether they are reliable. Mr. Thomas Henshall of Troy, Kansas, writes me: "For 26 years I have dealt with you. I have lived in Iowa, Missouri, Colorado, and Kansas, and no matter what the soil or climate, the result was always the same, to wit:—religiously honest and good." This is the kind of seed I raise and sell. The Hubbard and Marblehead Squash, Marblehead Corn, Marblehead Cabbages, Ohio Potato, Eclipse Beet, are some of the vegetables of which I was the original introducer. A Fair with \$500 in premiums. See my catalogue, free to all. JAMES J. H. GREGORY, (Seed Grower), Marblehead, Mass

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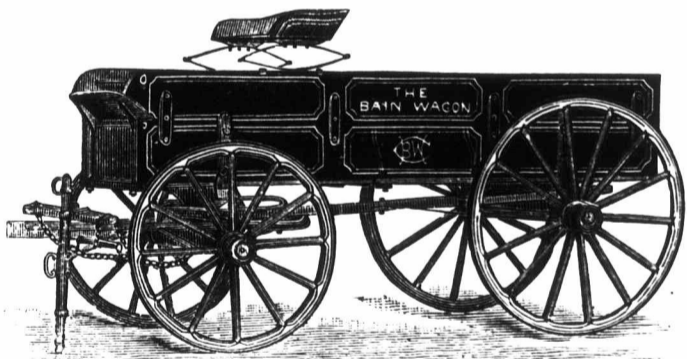
Steelyards, Union Scales, Butchers' Scales, and all kinds of Platform and Small Counter Scales.

Send for Catalogue.

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IS THE FARMER'S FAVORITE.

- Because it is the lightest running wagon made.
- Because it is made in the most careful manner, from the best selected seasoned timber.
- Because no inferior iron is used, and special attention is paid in ironing it off.
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- Because the patent arms made from our own patterns are superior to those made by other makers.
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- Because every wagon is inspected in all its parts by one of the members of the company before being sent out.
- Because it is just as represented every time.
- Because "the Bain Wagon" is warranted to be well made and of good material, and any breakage occurring with fair usage within one year, by reason of defective material or workmanship, will be made good by any of their agents, upon the purchaser producing the broken or defective parts as evidence.

Agents wanted for every county. Send for descriptive circular and prices to the

BAIN WAGON COMPANY, WOODSTOCK, ONT.

B.—We make a specialty in spring wagons. Prices given on application.

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NEAR 50 ACRES IN FRONT!

250 ACRES in the Township of Seneca; 200 acres is part of the Young's tract; 80 acres are cared, balance well timbered. Immediate possession; crop in the ground in the bar. ain. TERMS—\$8,000; \$4,000 cash, balance at four per cent. For particulars address THOMAS STEPHENSON, Appleby, Ont.

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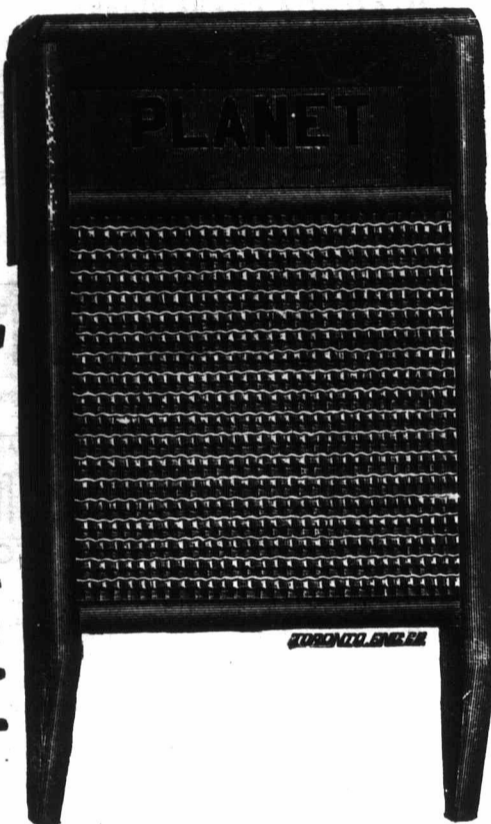
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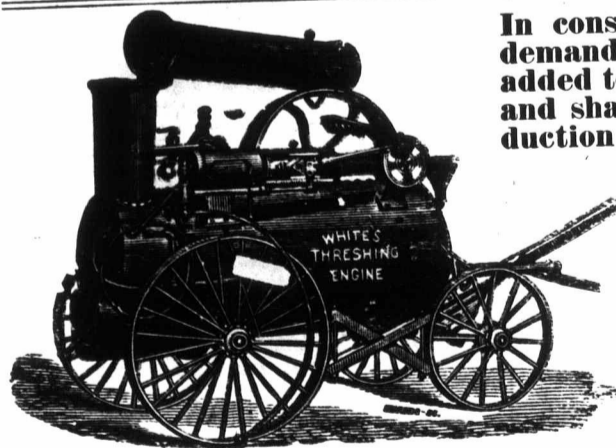
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