

# FARMER'S ADVOCATE

AND HOME MAGAZINE

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

WILLIAM WELD, Editor and Proprietor.

The Only Illustrated Agricultural Journal  
Published in the Dominion.

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### 50,000 Copies.

THE ANNUAL EXHIBITION NUMBER OF THE FARMER'S ADVOCATE AND HOME MAGAZINE, for 1882, will be issued in three special editions. The first edition about the 15th Aug., the second on the 15th Sept., and the third on the 15th Oct. next; 25,000 copies will be mailed before the leading exhibitions and fairs to leading well-to-do and enterprising farmers only, throughout our Dominion.

Our Fifth Annual Issue of this fast increasing and most successful advertising medium will be the best one ever issued.

This issue affords special advantages to advertisers who wish to push their business in Manitoba and Maritime Provinces.

Sow asparagus seed.

Late plantings of celery may be made until mid-August.

Coburn thinks that black hogs are gradually taking possession of the field.

This is the season of the year when the farmer loves a drink of good pure water. Do not forget that animals, including your hot chickens, thrive on the same innocent beverage. Healthy fowls cannot be raised on filthy water.

According to my observation, wherever the soil was kept finely pulverized and stirred by the horse hoe or cultivator, or if in the garden with a good steel rake, at least once a week, the most severe drouths we ever experienced here have done very little harm. I have never seen better growth of nursery trees than during last summer, and this is always the case in a dry season, with thorough cultivation.

### Our Prize Essay.

A prize of \$5.00 will be awarded for the best essay giving "the most correct account of the apple blight, and the best remedy or preventative for the same." The essay must be in by the 24th inst.

### To the Ladies.

We have received many useful, well written articles from the wives, daughters and sisters of our subscribers, in response to the question regarding the diet of farm laborers during harvest. We consider several of them deserving a space in this journal, as the subject is of importance to you all. The information they contain should and will be read with interest by each one of you, and with profit to most of you. As there are differences of opinion in regard to the merits of each, we purpose publishing a few of the best of them, and after publication, we will make a call by mail on some of you to aid us in awarding the prize correctly. We insert No. 1 and No. 2 in this issue; others will follow. Keep them and mark well the merits and demerits of each. Perhaps you may be called on as one of the judges to decide. As they are not all from Ontario, surrounding circumstances should cause us to weigh all subjects in connection with the essays. We shall award a prize to all that we publish, and shall require them to be classed according to their merits, trusting that you will be prepared to aid us if called on.

### Our Exhibition Issue.

The first edition will be issued about the 15th inst., and our friends will kindly forward copy for advertisements and communications as soon as possible.

One of the most important operations in mid-summer is that of thinning fruit. A tree carrying too heavy a crop to ripen properly should receive early attention, and at least every imperfect specimen should be removed. The quantity to remain should be governed by the vitality of the tree. Frequently a weak, delicate tree will produce heavily whilst one adjoining, in perfect health, will have but little fruit.

The best summer beverage, no doubt, is pure water of a temperature of 55° or 60°. It may be made positively nutritious by stirring into a quart of it one or two ounces of oatmeal very finely ground or powdered in a mortar. Any beverage whatever that encourages drinking in the field or the house in the hot weather is injurious. There is no necessity for drinking much more in the summer than in the winter, unless perspiration is very profuse, and to drink largely encourages this and weakens the system. An effort should be made to drink as little as possible and to use every means to avoid creating thirst, which, when it is excessive, is really an indication of disease or unhealthy action of the system. All fermented and aerated drinks are to be avoided; even the spruce-beer or ginger-ale or other home-made drinks are better in the bottle than in the stomach, where, in fact, they do not stay, but pass into the blood and out through the skin of the kidneys, and carry with them some matters which the body can ill-spare.

The careful gardener will remove the decaying flowers of roses and hardy plants as soon as their beauty is past, unless a few seeds are needed. If allowed to remain on, they impoverish the plant and create an untidy appearance.

Our readers will be interested to learn that from the seed of the Early Amber Sorghum there can be made a splendid article of buckwheat flour. In fact not one person in a million could tell the flour made from sorghum seed from that made from buckwheat. The sorghum flour is the better of the two, as it does not, to the same extent as does buckwheat, furnish the consumer of griddle cakes with an insatiable longing to wear out the back of his shirt against the gate-posts.

Wilson, Crescent and Charles Downing were lately voted by the Wisconsin Horticultural Society the best three strawberries for general culture.

I had a fine lot of squashes upon which the striped beetle came down one day "like the wolf on the fold," bidding fair to destroy the last vestige of a plant within a few hours. But I dusted the plants with pyrethrum powder, and the depredations ceased co-instantly! The bugs that were able to get away must have reported the fact through the neighborhood, for I have had no further trouble from them.—[Charles Aldrich, Hamilton Co., Iowa.

Vines are at present in the height of their growth; a minute occasionally bestowed upon the shoots disposed to ramble out of bounds will add greatly to their neat appearance.

Everyone is aware that the lawn-mower should be used often, excepting in very dry weather, and that weeds should never be allowed to grow in the flower-beds, but everyone does not attend to these little requirements.

As soon as the fruiting canes of raspberries and blackberries have fulfilled their mission they should be removed, so as to allow their successors to receive proper attention. The present season's shoots ought to be pinched back, and tied up carefully to stakes. Do not allow more than three or four canes to remain in a hill.

Shrubbery may now be trimmed into proper shape, especially such species as have passed the blooming season. This will cause them to grow more compact, produce more flowers, and render the plants more sightly.

Mrs. D. C. Joscelyn recommends in The Fruit Recorder the following way to put up sweet corn for winter use as giving very much better results than canning or drying: "Take the corn when just in the milk; scald it just enough to set the milk; cut it off and pack it in a stone jar with a layer of corn and a layer of salt; one pint of salt to a gallon of corn in layers alternately; fill the jar and weigh it down, and cover to keep out dirt, flies, &c., and when one wants to use it, freshen it and season to taste. I like butter and cream."

Mr. J. H. Sanders, of Breeder's Gazette, once owned an important Percheron-Norman stallion that when brought to this country had well-shaped but very rotten, brittle hoofs. He could not go unshod for a mile without serious inconvenience. By careful trimming and watching, however, he came finally to possess feet like iron; and, although he has repeatedly made trips of twelve to fifty miles, to fairs, etc., and has been driven much on the road, he has not carried a shoe in six years.



**On the Wing.**

VISIT TO WESTWELL FARM.

This farm is situated in Delaware Township. It consists of 200 acres, being part of three lots on the banks of the River Thames. The land is of a clayey nature, having sandy loam in some parts. The farm, which is cut by large ravines, was formerly heavily timbered with large black walnut, large white oak, ash, rock elm, beech, maple and basswood, indicating good land.

On this farm much of the wheat that has for years been disseminated throughout the country, has been tested. The Fife or Scott Wheat was first distributed to the Western farmers from this farm, about 30 years ago, and each new variety of value since has been sent from it to the surrounding country. There are many much more extensive farms—farms better located and having less waste land—farms that can show to much better advantage, and many have been better farmed; but few can lay claim to the origination of so much that has tended to the benefit of farmers of this Dominion, at such a small cost and with so much profit to the country.

We have had so much to call us away from this farm that we very seldom visit it, not having time to do so; but thanks for a Dominion Day and holiday, giving us an opportunity.

The wheat crop on the farm never looked more promising. The Fultz appears to be the earliest, but the Democrat appears to outrival it in height and bulk of crop; the Michigan Amber is a very stout crop, in fact, too heavy. The Scott, which was for many years our favorite wheat, appears to be a little later; but the boys have, after repeated trials, and that with numbers of varieties, preferred the four above mentioned wheats for their soil. On one part of this farm is a hard clay knoll, which we had often plowed, but to no profit, because it was always so hard and dry, baked and cracked by the sun; but it was in a good field and had to be worked well. This hard, dry knoll, that we had considered worthless, was now producing a remarkable double crop, namely, a first-class cut of timothy and clover, and a good crop of winter wheat above it. The wheat had laid on the ground without rotting or germinating, and had now grown so as to make a good, fair crop if it were left to ripen. Our son had turned the stubborn hard clay knoll into a fertile spot by giving it a liberal coat of lime.

## PINK EYE.

In the orchard we noticed one of the horses lying stretched out; the legs were greatly swollen. It got up, but walked very stiffly. All the horses on the farm had the disease; none were fit for hard work, although some were just recovering. The principal treatment required is such as would be given in case of a bad cold, namely, rest, opening diet, care and comfort; a little medicine may sometimes be advantageous, but more frequently injury is done by it than good. The cause or spread of this disease is not so easily explained. The conveying of infectious or contagious diseases when once introduced into a country or locality, appears to be almost unnoticeable. The air appears to contain sufficient of the virus at suitable times to infect a large section. This disease and the epizootic should teach us that we cannot exercise too great caution to prevent the introduction of any kind of disease into our country. In Gloucestershire, in England, the Rinderpest spread ruination among the farmers in the whole of that county, in a few weeks.

On the farm is a very fine orchard, one of the best in this part of Canada. Many of the trees had been very full of blossoms and well set for apples, but the last week in June, for some cause

which we are unable to explain, a blight struck through the orchard, the fruit dropped off, and many of the leaves turned brown and some curled up. But what appeared most remarkable was the fact that the blight did not affect any of the trees that had not blossomed, and the leaves of all the trees that had blossomed were affected. We presume the same might have been observed in all the orchards in this part of Canada, as the complaints of blight and consequent scarcity of apples are very general. Perhaps some one versed in pomology might explain the cause to the farmers of Canada. If any of our subscribers have good apple crops in other parts of the Dominion, they ought to realize a good price for them, as they will be scarce enough throughout this western part of Canada, and generally we have a large surplus for shipment.

As the wheat and apple crops are both of great importance, we examined the many apple trees as we went through the country at different points, and in all sections the disease was apparent. In some places the injury done had been greater than in others. For instance, in the cities, villages and towns there were far more apples on the trees than in other orchards near them; also trees or parts of orchards that were protected by wind-breaks were not so much injured. At the Government Farm we enquired the cause, but they could not give us any information on this subject. The nurseryman, orchardist and seedsman have different theories as regards the cause. Some consider the wood was soft last autumn, others that the wet weather at the time the blossoms were out prevented the humble bees and other insects from distributing the pollen at a proper time; some think it the effect of frost; others attribute it to an east wind, others to the work of an aphid or insect, or to a fungus growth. But it is the general impression that no material injury is done to the trees, as new leaves will be formed where they are required for their health. The lightness of the crop is very serious to those depending on fruit, and will be felt by all. As the direct cause of this wide-spread malady is not generally known, we are unable to commend a remedy or preventative. We have heard suggestions of sprinkling the trees with hellebore, lime, sulphur, etc., but are unable to commend any preventative or remedy. We deem this subject of so much importance that we will award our next monthly prize of \$5 to the individual sending us the best essay on "the most correct account of the disease and the best remedy or preventative."

## WINTER WHEAT.

On the 13th of July we took a drive through part of London and Westminster Townships, in company with Mr. William H. Brown, of Columbus, Ont., and Mr. Jno. Plummer, the President of the Western Fair Association. In passing through the country we paid particular attention to the wheat fields, nearly all of which showed a very strong attack of rust on the leaf. This was the first we had seen or heard of rust this year. We computed the damage to the different fields as we passed, and estimated it would vary from 25 to 75 per cent. in the various fields. The late sown fields, or those on low, damp, undrained ground, were placed at the latter figure. But, to our surprise, the rust has not spread to the stem of the wheat, as it generally does; perhaps this was on account of a few cooler days that followed. Consequently the damage computed was totally incorrect, as the wheat has generally filled well, far better than it usually does when smitten by the rust, and very little injury has been done by it, except on very late pieces and on spring wheat.

This raises the question, why does rust do so little injury some years and so much in others after

the blade is similarly effected? Who will explain?

To enable us to form an opinion of the best varieties of wheat, we took a trip of enquiry on the 18th of July. We called at the Government Farm at Guelph. Mr. Mills, the Principal of the College, and Prof. Brown, who were busy, introduced and gave us in charge of a careful, painstaking young man who had but recently graduated, Mr. Nichol, the former Manager of the Experimental Department, having left the institution for a very responsible position in China. We found the experimental plot of wheat looking better than usual, but there is a lack of order to facilitate the comparisons. They claim to have between 60 and 70 varieties, which, with a little judicious management, we think could be reduced to one-quarter the number. They may be placed in alphabetical order, and the plots may be distinctly marked; but it is our opinion that if the varieties that are similar were placed near each other, one could compare the merits and qualities of the different varieties much better than by the present system. As now arranged, it is quite puzzling to find out the different plots of the various kinds, even with the aid of the book, the plan and best guide on the farm. We would suggest an immediate re-arrangement of this department, as good can be done by this experimental plot. For instance, we noticed the old wheat known to every farmer under the name of the Soules wheat; here it appeared to us scattered among the different plots under six different names, and perhaps by closer inspection, it might be found in many more. The first wheat seen is the Finlay; this is nearest the road. It is the earliest kind on the ground, excepting the Fultz and Fluke wheats. These three plots, which we consider one variety, are all fortunately in a row, all by the fence, and cannot be mistaken. These varieties have a white chaff and a peculiar purplish tinge on the stem, not noticeable in any other wheat, except another variety called the Russian Fultz. This wheat has every appearance of being the same as the three former varieties, except this feature—it is a bearded kind. The form of the grains and heads is similar in all, and we are unable to ascertain any difference in them except on the highest ground one is a little more lodged than the other. On enquiry we are unable to ascertain who imported these different varieties, or where they originated.

We noticed several varieties marked plainly rust-proof, but it required but the common eye of any farmer to see plenty of rust on the leaves, and a close observer could detect a little on the stem as well. The principal crop of wheat we saw on the farm was a fine field of Clawson or Seneca. This wheat is called by both these names; in one section it is called by the one, in others by the other. Question—which is right, and why called by both names? The Smash-up wheat, the Treadwell and the Democrat resemble each other. The Michigan Amber and the Turkey wheats also resemble each other.

A rain storm drove us from the field, and the length of thistles on the roads through the plots prevented as close an inspection as we would have liked; as it was, we got a wetting for our pairs.

On Wednesday we went over

MR. F. W. STONE'S FARM,

as he has some wheat also.

Mr. Stone's farms consist of 800 acres, one of which adjoins the Government Farm, and are within a radius of five miles from Guelph. Mr. Stone is a genuine specimen of John Bull.

The first field we entered contained his herd of Hereford cows. There were 93 in this field; most of them were lying down on an undulating slope, a few were grazing, and some standing near the shade trees by the fence. There were passing



clouds, and as the sun shone on the white faces and red bodies of these cattle, so even in color, all so apparently contented and comfortable, and in such prime condition, we could not help expressing our feelings thus: "We never saw such a large herd of really first-class Hereford cattle before." To which Mr. Stone quietly replied: "there is no herd equal to them either in America or in England." Had these words been said by many we should have doubted them, but we must admit that we never saw such a grand show of these beautiful animals. The sight of this splendid herd can never be forgotten; we were more delighted with it than with the whole stock of an exhibition. To see these 93 cows, all nearly alike, all fit to take the prizes at the different exhibitions, not a sick, lame or improperly marked animal among them—the sight was really superb, and Mr. Stone said he had never seen them look to better advantage than they did at that time. Compare this sight with the sight of a lot of poor, tired, dusty, hot animals, walking in a dusty or muddy show ring, or pent up in some stall at an exhibition. In one place the cattle are at ease and in their natural state; in the other they are miserable from many causes. We would like that you could have seen this sight; you could not but have been highly delighted.

From this field we went to the stables where the bulls and calves were kept. Here was another sight almost as fine—a magnificent lot of young Hereford bulls and heifers. We were quite delighted to see them all so comfortable and in such healthy and prime condition, all so uniform in color and make. They were a grand exhibition in themselves. "Regent," the bull standing at the head of this herd, appears to us unsurpassable as a Hereford bull, and hardly to be equalled by any bull. Just look at this bull at the Provincial Exhibition this year, and give us your opinion about him. It is worth a long journey to see such a surprisingly beautiful animal, that is, to fill the bill of carrying so much beef in so small a compass and in such a handsome form. We have seen a great many illustrations of farm animals, nearly all of which are overdrawn at the present day, but no animal that we have yet seen requires less overdrawing to make him the perfect model of an animal. Go and see this bull at the time he is to be taken into the ring. This looking at animals lying down in the stalls is but a poor way to have a correct idea about them, and we trust most of our readers have too much consideration to think these heavy animals are to stand up all the time for their advantage and never become weary.

On another farm Mr. Stone has his Cotswold sheep, at another his Southdowns, at another his Shorthorns. His stock consists of 138 Herefords, 100 Shorthorns, 619 Cotswold and Southdown sheep. He has a few Suffolk Punch horses, and some good Berkshire and Suffolk pigs on his farm.

We visited Toronto seedsmen, and were shown but one new variety of wheat. They all report excellent crops from all parts of the country.

AT HAMILTON,

Messrs. Bruce Bros. took us to see their seed and testing farm. It consists of 35 acres, situated below the mountain near the city. It was in excellent order, the crops of onion and lettuce seed being particularly fine. They have six varieties of wheat imported from Poland, some of which are very promising; also six varieties of oats from the same place, one of which is a remarkably early sort, being fully out in head, while all the other varieties are only just beginning to open. Messrs. Bruce will not offer either of these grains to the public yet, preferring to give them a still greater test in different parts of the Province.

AT PARIS

we saw Mr. Smoke's herd of Jerseys, 26 in num-

ber, and enquired about the wheat crop, as this locality has obtained some notoriety in wheat. But on enquiry we find that hardly any of the farmers grow any of the Arnold varieties. We heard the Clawson and Scott wheats spoken of more favorably and grown to a much greater extent. The Democrat is also well spoken of by those who have it. There is considerable of the Michigan Amber grown, but this is known only in some localities as the Turkey wheat. It is a very good bearded, white-chaffed variety, but such a general good crop of winter wheat now crowns the farmers' labors, that it appears for the present no improvement is necessary. Our fall wheat crop is the best we have ever seen, taking the extent of land into consideration; but the time will shortly arrive when farmers will again look about for a change. It is well to exchange seed from other localities; even if it be the same kind of wheat, the change will repay.

Some are enquiring about about the

ORIGIN OF THE DEMOCRAT WHEAT.

This wheat was imported from Austintown, Ohio, U. S. A. The wheat was introduced by a careful, prominent farmer, having been selected and grown from a single plant found in another wheat, and this had been carefully saved and reproduced in that locality with the greatest success. This wheat has now been grown in Canada for three years, and all who have it speak highly in its favor, both for its yield, hardness and quality. It is a white-chaffed, bearded variety, resembling the Smash-up or Treadwell wheats.

THE HESSIAN FLY.

On the 25th we had a short conversation with Mr. W. Saunders, the editor of the *Canadian Entomologist*. He informed us that he had examined a field of wheat near Komoka, and found it badly affected by this pest. He produced some of the straw, which he had brought home with him. He opened the joints and showed the insect in the flax-seed form. As this is the first intimation we have had of the return of this destructive insect, we do not consider that any great injury has been done this year, although Mr. Saunders estimates the damage done to the field that he examined fully 20 per cent. But it might cause us to hesitate in depending too much on our winter wheat for next year, as this year's bountiful return will cause farmers to rush in all they can, perhaps to the injury of the farm and to the grass crop, which we believe must be our best paying crop.

Stock Affairs in Scotland.

[BY OUR OWN CORRESPONDENT.]

After a backward spring, summer has at last burst upon us, and, generally speaking, the crops throughout the country promise a good return. The cereal crops look healthy and thriving; grass is abundant, and, as a consequence, the price of beef has, within the past few months, risen 10d. to 15d. per cwt., while lean or grazing stock are also selling at very high prices—so high, indeed, that, in the event of the price of beef falling off in the end of the season when the cattle will be ready for the butcher, holders of stock will not receive an adequate return for the cost of grazing. The sheep farming industry in the Highlands of Scotland is not in so prosperous a condition as it was some years ago. In consequence of the severity of recent winters, and the rapid extension of deer forests, stocks within the past few years have decreased rapidly. Wool has been cheap, and the cost of wintering high, so that although this year the condition of the flocks has vastly improved, the crop of lambs, being of good quality, farmers in the Highlands do not speak hopefully of the future.

Breeders are busy preparing their cattle for exhibition at the summer shows. The Highland Society's show—the greatest event of the kind in

Scotland—takes place at Glasgow, at the end of the present month. Fears were entertained that the restrictions on the removal of cattle from one county to another, rendered necessary on account of outbreaks of foot and mouth disease in England, and there was at least one in Scotland, would prevent exhibitors from the north from sending forward their cattle. Fortunately the course of the disease was checked, and the local authorities throughout the country have revoked the restrictions, and the cattle will be free to return home.

Speaking of disease reminds me that the valuable herd of Polled Aberdeen or Angus cattle, belonging to Mr. D. A. Pearson Johnston, Kincardineshire, was slaughtered early last month, Pleuro-pneumonia having broken out among the stock. The herd, which was founded about fourteen years ago, numbered altogether thirty-five head, and was valued at £1,500. The loss, however, is not to be estimated from a monetary point of view. The disappearance of such a fine herd from the county is a loss to be deplored, as the dissemination of the Johnston "blood" among the stocks of the neighboring farmers was beginning to tell powerfully on the character of the cattle produced in Kincardineshire.

The exodus of Polled Aberdeen or Angus cattle from this country to America has of late slackened a little, the reason being that there are few cattle of this breed now for sale. I notice that two important sales are announced to be held in the autumn of the present year, and, as the animals to be brought under the hammer are of high character, good prices will be realized.

A valuable lot of well selected Polled cattle were recently sent from here to two of the largest dealers in Canada.

During the past two months large numbers of farm servants and artisans have left the northern counties of Scotland for America, most of them going to Manitoba. The movement, which has attracted much attention in this country, has its origin in the fact that the prospects of the farm-servant class have for some years been darkening. They see that farming has been a losing game, and that even were it otherwise, the chances of their ever becoming tenants of farms is far removed, while the house accommodation for farm servants is, in many cases, of the worst description, and this point in particular has been a great cause of complaint among the agricultural laborers in this country. The exodus of such large numbers of these men led to a slight increase of wages at the Whit-Sunday term.

[Our readers will see from the foregoing letter that every precaution is taken to stamp out contagious diseases among cattle in Great Britain, even to the destruction of entire herds; so that there will be little danger of disease being brought into Canada from that source, which is undoubtedly the best from which we can recruit our herds with safety.]

English Letter—No. 39.

Liverpool, July 5th.

The poor English farmer is having his proverbial bad luck; with one of the finest crops of grass ever seen, we cannot get a spell of decent weather in which to gather it. Friday and Saturday last were the longest spell of dry weather we have had for six weeks, and in many districts the hay will be greatly injured, if not altogether lost. Grain crops are looking well, but they also are greatly needing warmth and sunshine.

Great numbers of Canadian buyers are over here looking out for pedigree stock, but they are reserving themselves for the Royal Agricultural Show next week at Reading, of which I expect to have something of interest to say in my next. Consider



able purchases for Canada are expected, for Messrs. Allan have put on an extra steamer, the "Buenos Ayrean," to be devoted exclusively to live-stock, and to sail immediately after the close of the show.

The Canadian stall at the Royal Show will undoubtedly form a feature of great interest, owing, in no inconsiderable degree, to the samples of soil from Manitoba and the North-West, sent by the Dominion Government, and form the most complete and valuable illustration of the agricultural capabilities of a mighty region that has ever been secured. They have been exhibited on the Liverpool Exchange and have excited immense interest.

The excellent assortment of grain, seeds and grasses for exhibition at the Canadian stand has arrived in excellent condition, and makes an admirable display, anticipating a great demand for literature giving information respecting Canada and its Great North-West. The Dominion Agency has also forwarded to Reading over 100,000 copies of reports, pamphlets, &c., for distribution to the visitors to the Royal Show.

The prices of American beef continue very high. The Mersey Docks and Harbour Board, at last, when they are comparatively little needed, have provided refrigerators in connection with their abattoirs. Had they been erected three years ago, when the trade was in full swing, much of the expense would have been, ere this, recouped. From present appearances, however, the American dead meat trade may be practically said to have ceased.

The only cattle coming from United States ports are a few Canadians shipped by Messrs. Lingham, whose object in so sending them was to break down the rates of freight from Montreal; only one steamer, I understand—the "Toronto," of the Dominion line—came without stock before Messrs. Lingham were able to attain the object they had in view. The rate at present paid is, I understand, about ten dollars per head, which cannot be looked upon as extravagant.

The Duke of Manchester returned from Canada in the S. S. Polynesian, which arrived in the Mersey on Tuesday. I understand that the Duke's company have purchased five millions of acres of land from the Canadian Pacific Railway Company, and their rights include half the town sites in the districts which they have purchased. Steam plows will be sent from England to break up the land; it is intended to build each settler a small house, and to supply him with oxen and other live-stock. For these he will have to pay a small sum down and the balance in ten yearly instalments. These terms will give energetic men excellent opportunities of securing homes, and at the same time prove a splendid investment for the British capital.

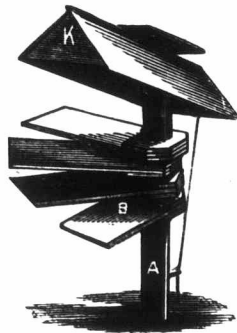
The *Miller*, an admirable journal, devoted to milling interests here, and in fact all over the world, has this week an article on the Great North-West, in the course of which, after commenting on the fickleness and frequently disastrous character of our weather, the writer says: "Where then are our farmers to betake themselves if the seasons produced by their native country are only such as mean ruin to them? In a land shone on by the same sun which is sometimes seen in England during exceptionally favorable seasons, where the same speech is chiefly spoken, where the same national flag flutters in the breeze, and where the same pride is felt in the home affections, the home glories and the home traditions, there are secured for agricultural use 25,000,000 acres of the finest wheat land in the world. \* \* \* Why should we not go forth as a laborer to that vast and bountiful wheat garden?"

Considerable matter is unavoidably crowded out of this issue, but will appear in our next.

## Hints and Helys.

### A New Fruit Drying Scaffold.

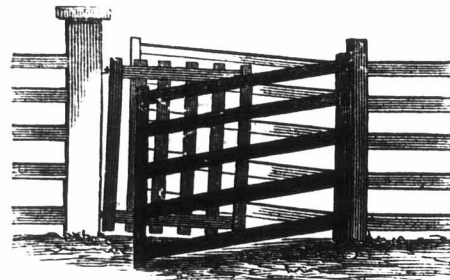
A novel device for facilitating the drying of fruit in the sun is shown in the accompanying engraving. In the engraving, A is a post of suitable height and size, the lower end of which may be either set in the ground or attached to a suitable base to give it necessary stability. In the upper end of the post are formed two longitudinal slots, which intersect each other at right angles, and by the use of proper pins and lugs the ridge pole which supports the roof is united to the post. Attached to the post A, are shelves B, made of any convenient length and breadth, and near one end of the shelf is formed a hole to receive and fit upon the post. The shelves are supported at the desired



height by projection pins attached to the post below the lowest shelf. To the perforated ends of the shelves are attached short boards D, to give the shelves longer bearings on the post and also to keep the shelves at such a distance apart that the fruit upon them shall not be disturbed. The roof, K, made of boards or of a frame and covered with canvas, is so arranged at

the point of contact of the ridge pole and post that by pulling down upon a rope, the roof may be raised to an upright position, exposing the fruit upon the scaffold to the full rays of the sun, and may also be turned to a vertical position. The fruit is protected from rain or dew by swinging the shelves together and lowering the roof over them.

### Always Ready Gate.



The gate swings in a V-shaped enclosure, or in two sides of a triangle; having top hinge the longest and the post plum; the gate, at rest, always hangs in the centre, and, rightly constructed, will always leave a passage way of two feet. Cattle cannot get through it. It is always shut and always open.

### Essay on

THE MOST SUITABLE AND ECONOMICAL FEEDING AND BEST COOKING FOR HARVEST HANDS, WITH BILL OF FARE FOR ONE WEEK.

This very important branch of house-keeping, the providing of suitable and economical food, prepared in the best way for harvest hands, requires constant daily attention on the part of the house-keeper. To avoid languor of appetite at any time, and more especially in the heat of summer, when much strength is required, it is necessary to make as much variety of food as possible for the different meals, also to study the tastes of the different people for whom preparation is being made. As a general rule I think the most suitable food for harvest hands is that which is wholesome and strengthening, such as vegetables, different kinds of meat, and fruit, with pudding and other extras for variety, which I think is the most economical as well. As to giving a bill of fare for one week, I will not attempt to name every particular article on the table, but the principal part, or that of which the meal consists principally. For breakfast I use as one of the principal items, porridge made of graham flour, (my choice of the different kinds of meal) used with good rich milk, after which I will have either cold roast beef sliced, or dried; ham either boiled or fried for the different mornings, together with bread and butter, and some kind of fruit sauce. For dinner I would say have fresh meat as often as possible; in country places it is sometimes impossible to get it regularly, but we can generally

have fresh beef or lamb two or three days of each week, fresh fish one day and dried pork and eggs, if desired, for the remaining days, with potatoes, radishes, tomatoes, and so much variety of vegetables as is possible to have at that season. For desert, I prefer either rice, bread, cornstarch, or plum puddings, with pies of the different kinds of fruit at hand in harvest time, alternately throughout the week. Just here I would say, in naming plum pudding for harvest hands, I do not mean the rich and expensive kind, made generally at Christmas or other such festive occasions, but that which is almost as nice, and much more conveniently made. For our family, seven in number, I take one large teacupful sour cream, one egg, 2 tablespoonfuls sugar, 2 tablespoonfuls melted butter, 1 teaspoonful salt, 1 teaspoonful soda, a little ginger, 1 cup cut raisins; if convenient, put a tablespoonful of dark molasses, flour enough to make a stiff batter and butter a dish; I generally use a flat bottomed stoneware dish with a narrow rim (tin would answer), put a cloth wrung out of cold water loosely over the pudding and tie with strong twine under the rim; boil one and a half hours; be sure the water is boiling when it is put in. Serve with the usual plum-pudding sauce. For tea or supper have either cold meat, boiled eggs, cheese or custard, or occasionally flour pancakes with syrup, together with pies, cakes, and fruit, either fresh with cream and sugar or cooked.

As regards the drinking portion of the programme, we use tea and coffee for breakfast, generally good milk or water for dinner, and tea with super.

Such is the experience and practice of E. H. H.

SIR,—Last evening while looking over the *ADVOCATE*, I saw you had offered a prize for the best essay on "the most suitable and economical feeding and best cooking for harvest hands." As I have had considerable experience in that line, the thought occurred to me that I might try and win the prize; while musing I fell asleep and dreamed that I was the successful competitor, and that with the money I bought a silver butter dish of enormous proportions. I awoke, but alas! it was only a dream; my hand grasped the handle of a new tin cup in which I had a drink of water for the baby. Thus it is ever. I then went to my downy couch, but sleep refused to visit my eyelids; towards morning I fell into a troubled doze in which I saw visions of prize essays half finished floating through the air. The thought of writing an essay made my heart come into my throat, like it used to in my schooldays when my teacher would call upon No. 56 (which meant me) to read a composition before the school. If I only knew what sort of an essay you have in your editorial eye I would feel much better; if you would like a highflown article interspersed with something nice and sentimental, I might possibly conform to your wishes and thus win the prize; as it is I can merely state the facts. Maybe I have a talent for writing; if so it lies buried so deep as to be of no use to me. If there is any subject worthy of time and attention, it is that of preparing food in a suitable and proper form, to nourish the human system; as far as my experience goes I think it a difficult task to perform; to some of your readers it may seem a trifling thing to cook, but such is not the case. I can remember many unhappy hours spent in my childhood simply because I did not fully understand how to prepare a meal as I ought. Once in particular, our girl had gone home on a visit, and mother was invited out to spend the day. I wanted her to go, but she thought she could not leave me to look after the work; after much persuasion she consented to go, and left filled with doubts as to my capability of baking bread and preparing dinner for the men. As she drove away the words, "Margaret Ann, don't forget, the bread must go into the oven in fifteen minutes," were wafted back to my ears. I settled myself in an easy chair, and took up a new Sabbath school book to read just one chapter, but became so engrossed in following the fortunes of the hero, that I forgot bread, dinner and everything else; at the end of two hours I came to myself only to find the fire out, bread run all over the pans, and time the string beans were on for dinner; perhaps you can imagine my consternation. I hastened to repair the mischief, but it was too late, two hours were lost, and that meant considerable in a forenoon; and where was my dinner of which I had boasted? The bread was sour, beans half cooked, and potatoes boiled in pieces, and to add to my troubles an old editor from Bridgetown came in to take dinner with father. How I blushed with mortification as the dinner was served; fortunately we had plenty of nice cold bread, which, with a



cup of tea, pie and strawberry preserves, they managed to make a dinner. I shall never forget the politeness of that old gentleman; he praised me, patted me on the head, said he knew I would make a smart man a wife some day, and never hinted about sour bread, watery potatoes, or salt ham (and it was salt, no mistake). Well I learned a lesson which I have never forgotten, and feel thankful every day of my life to think my mother taught me how to cook; it was a hard task for her, and she often used to say, "well, my child, I would much rather do the work than teach you if it would only do you as well."

It requires time and patience to cook even the simplest articles of food properly, and also no small amount of common sense; the time has passed when salt pork and fish are used day after day; variety is what we must have, and this causes the house-keeper many an anxious thought. The less salt food the better; in these hot summer days the salt creates such a thirst that our men have to drink too much cold water to quench it; this makes them uncomfortable and not able to bear the heat as they otherwise could do. We must have plenty of fresh meat, fish and vegetables, and let the salt food remain until cooler days come; also take care to have a bountiful supply of berries, and nice, sweet bread and butter. I make very few pies when I can get berries; they are plentiful, and, with care, one can have a constant supply after the 10th of July until the frosts come. I find the month of June and first of July the hardest time to get a variety; but if one has a small piece of ground devoted to rhubarb, it is very nice to have with dried apples, or served alone with plenty of sugar. Asparagus makes an excellent substitute for green peas. If our young ladies would spend some of their leisure hours in learning to cook, and do house-work generally before their marriage, they would never regret it, and their homes would be much happier. No matter how much their husbands love them, it rather removes the romance from life when they come in from their work tired and hungry about one o'clock (when dinner should be ready at sharp twelve) to sit down to a meal half cooked and wholly unpalatable, when their mothers are such excellent cooks; and it does not help matters for these husbands to recommend Lucy or Nellie to run over and ask "mother" how to cook such an article. Maybe they go right away and ask her? Not much; they have no desire to display their ignorance, so they suffer until they learn from sad experience. Farmers are compelled to have a great deal of help to harvest their crops in the proper time, and this makes it necessary for their wives to do a large amount of cooking, and how to do this well and economically is one of the great problems which we have to solve, and one upon which much more depends than we imagine; it is the "little leaks which sink great ships." I know of no way a farmer's wife can save more than by personally looking after her own cooking. It is an easy matter to throw many dollars worth from the pantry window, and this is done unless the food is properly attended to. Many of our young girls enter upon their married life with but slight knowledge of the work that is to be performed. Many of them taken from the school room, where they have spent the larger portion of their lives. Of course they do not understand house-work and cooking, but are expected to know as much and do more than those who have had many long years experience, and who have forgotten the trials of their early life; no wonder they lose their health and beauty in a short time. I fear I am wandering from the subject, but it cannot be helped; I have a great deal of sympathy for these young wives. Provisions of every kind are higher than usual, and we have to be more careful than ever of our household expenses. The fish and meat man each come twice a week, and we have a good assortment to select from; beef, lamb, veal, salmon, halibut, cod-fish and all fish that are usually found in this country. Enclosed you will find a price list, as well as a bill of fare. I fancy, in the distance, I see a terrible frown upon your brow, and a scornful smile upon your countenance as you glance down these poorly written sheets and murmur something which I cannot hear, but presume it is not at all complimentary to me, as you lean over your table and fling my poor essay into your overflowing waste basket. Well, I will try and survive the shock, and you can rest assured I shall try again at the first opportunity. I have a large amount of self-conceit, and know I can prepare a nice meal (of which you shall have abundant proof if ever you come to our "humble wig-wam"), even though I cannot write a prize essay.

Now comes this bill of fare for one week; there are so many varieties of food to choose from that it makes the task very difficult. I never have two weeks just alike, as sometimes I cook a larger quantity of food than we require at one meal, and our men do not object to having a dinner warmed over the next day, provided it is nice. The following is the experience of one week, and proved satisfactory to all concerned:

BILL OF FARE.

Sunday Morning.—Oatmeal porridge, bread and butter, strawberries and cream, and tea. Noon.—Baked beans and pork, brown bread and pickles. Dessert—Apple and custard pie, bread and tea. Night.—Stewed gooseberries, sponge cake, cheese, bread and butter. I presume that is always understood (bread and butter, I mean.)  
Monday Morning.—Oatmeal porridge, bread and butter, and tea. Noon.—Dry cod-fish served with cream and butter, mashed potatoes, beets, pickles and salad. Dessert—Ginger-bread pudding and tea. Night.—Dried apples well stewed, cheese, ginger snaps, tea.  
Tuesday morning.—Oatmeal, fried fish balls, bread, butter and tea. Noon.—Beef stew with dumplings, beets, potatoes, mashed turnips and pickles. Dessert—Ginger-bread pudding. Night.—Washington pie, stewed strawberries, tea.  
Wednesday Morning.—Oatmeal; bread, butter and tea. Noon.—Fried halibut, baked peas, pickles, mashed potatoes. Dessert—Boiled rice. Night.—Buckwheat cakes served with butter and syrup, tea.  
Thursday Morning.—Oatmeal, bread, butter, tea and strawberries. Noon.—Sirloin steak, mashed potatoes, baked peas, pickles, salad. Dessert—Rice pudding. Night.—Stewed rhubarb, ginger-bread, dried beef, tea.  
Friday Morning.—Oatmeal, bread, butter and tea. Noon.—Fresh haddock boiled, served with drawn butter, beets, salad and mashed potatoes. Dessert—Corn-starch pudding and pie. Night.—Strawberries and cream, cookies, dried beef, tea.  
Saturday Morning.—Oatmeal, bread, butter and tea. Noon.—Fresh shad baked, peas, beets, pickles. Dessert—Rhubarb pie and tea. Night.—Custard, cream pie, cheese and tea.

PRICE LIST.

Potatoes	.....	\$1.00 per bushel
Beans	.....	3.00 "
Peas	.....	2.75 "
Turnips	.....	50 "
Beets	.....	75 "
Carrots	.....	40 "
Onions	.....	2.50 "
Oatmeal	.....	6.25 per barrel.
Flour	.....	7.50 "
Butter	.....	20 cts. per lb.
Lard	.....	17 "
Cheese	.....	12 "
Sugar	.....	9 & 10 "
Corn-starch	.....	15 "
Rice	.....	5 "
Tea	.....	40 cts. per lb.
Cream-tartar	.....	45 "
Molasses	.....	45 "
Syrup	.....	65 "
Dried apples	.....	7 "
Raisins	.....	10 "
Milk	.....	1 "
Dry cod-fish	.....	5 "
Fresh "	.....	5 "
Haddock	.....	2 & 3 "
Halibut	.....	6 "
Salmon	.....	10 "
Best beef-steak	.....	12 "
Sirloin	.....	10 "
Pieces for stew	.....	7 & 8 "
For soup	.....	4 & 5 "
Salt pork	.....	14 "

EVERY-DAY RECIPES.

**Molasses Gingerbread.**—1 cup molasses, 1 cup boiling water, 1 tablespoon butter, 1 teaspoon soda; flour to make a thin batter; bake in the long pan.  
**Rice Pudding.**—Take cold boiled rice, cover with milk; beat one egg, add that, and 1 cup raisins; bake 2 hours, eat with sauce.  
**Gingerbread Pudding.**—1 cup molasses, 2 cups buttermilk, 1 teaspoon each of soda, salt and ginger, butter size of an egg, and one egg; make thick batter; steam two hours; serve with sauce.  
**To Bake Peas.**—Soak over night in cold water, parboil in fresh water with  $\frac{1}{2}$  teaspoon soda for two hours, put them in a bean pot or tin pan; add salt,

pepper, small piece butter, tablespoon sugar; bake three hours; very nice.

**To Make a Good Syrup.**—Take 5 lbs. sugar, add 4 quarts water; put in a sauce kettle; boil well and skim; add essence vanilla to suit the taste.

I might add many more, but presume you have had enough.

Manitoba Letter.

[FROM A CORRESPONDENT.]

West Lynne, July 10th., 1882.

A good many false and exaggerated reports have been circulated through the Dominion by some individuals as regards the high water in the Red River in the spring, making it appear that the country is almost ruined and will not recover from the effects of the flood. Those are absurdities, and should be looked upon as such. True, the residents near the river were put to some inconvenience, and farming operations were retarded for a time, but those troubles were of short duration, and the crops in that vicinity look fine and promise an abundant yield. The main damage done by the flood was the destruction of the free traffic bridge at Emerson, but the Emerson council acted promptly and soon had a temporary bridge erected to accommodate the public until a permanent bridge is constructed. The new bridge is to be built of iron, and will cost in the neighborhood of \$75,000 or \$80,000. The weather during the latter part of last month and up to the present time has been fine with frequent showers, so that vegetation has been very rapid, and crops of all kinds look splendid, and if no unforeseen calamity befalls them, by far the greatest crop of grain ever reaped in the Province in one season will be gathered the coming harvest. The steam plow built in Hamilton, Ontario, and to be used on the Low Farm, twenty-five miles north-west of this place, arrived at its destination on Saturday last. It was forwarded to Winnipeg by mistake, and has been lying there ever since the fifteenth of May, and through the negligence of railroad officials no tidings could be heard of it until recently, to the great inconvenience of the proprietor. The seed wheat purchased in Toronto by the Morris Agricultural Society, and shipped last March, has been detained in like manner, and the directors are claiming damages, but Mr. Harder, the general manager at Winnipeg, says that the matter will be amicably settled.

The citizens of West Lynne, proud of their town having been recently incorporated, made up their mind to celebrate Dominion Day in grand style, and contributed \$500 for the occasion. The weather during the day was fine, and 2,000 people gathered to witness the sports, and everything passed off pleasantly to the satisfaction of all. The silver cup, valued at \$50, and presented by Dr. Mallock, of Ottawa, to be competed for in a running race, open to all horses owned in Southern Manitoba, was competed for on the following Monday, and was won by a horse from Winnipeg, recently brought from Ontario.

The tide of immigration is still flowing in, and teams can daily be seen wending their way westward, conveying settlers to their new homes, and dotting the prairie here and there with covered wagons, giving it quite a picturesque appearance. Horses are still in good demand, and prices are tending upwards; from \$500 to \$600 a team is asked and obtained for good horses. The dealers are, as a rule, bringing a better class of horses from Ontario than formerly, and they say that their profits are not so large as when they brought an inferior class and sold them cheaper.

THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.—This society held their summer meeting at Trenton, on the 15th July. There was a good attendance of members, and several interesting papers were read. The meeting was adjourned till the 19th Sept., to be held at Kingston.



## Garden and Orchard.

### The Fern.

The cultivation of the fern in lawns and pleasure-grounds has become very general, and it adds no little to the attractiveness of the ground, whether planted as a relief to the flower garden, or in a fernery by itself. Their peculiarity in propagating from fronds, their greatly diversified stems and foliage, make them very popular as objects of study as well as ornaments, while their gracefulness, whether growing among foliage plants and flowers, or wild in their native places, renders them general favorites.

The number of species that have been distinctly described is nearly three thousand. They are met with growing wild in the old world as in the new; but the principal home of the order is in Australia and in New Zealand, above all places, where the tree-fern grows to the height of fifty feet. The fertile lava soil and the genial climate of those beautiful islands are especially favorable to its growth.

In Canada, though the fern is, if compared to the tree-fern, of pigmy size, we have many beautiful species. In a cool, moist place, beneath the shade, of the native forest, a diligent explorer may discover thirty distinct species. Those most generally met with are the common brake, the rock fern, the king fern, the oak-leaved and the maiden hair; this last is perhaps the most graceful of our native ferns.

In cultivation ferns may be adapted to various locations, for, though generally found in the shade many of them grow freely in the extreme glare of the sun-beams, if the air is at all moist, and some grow amid bare rocks; several species climb rocks like ivy, and some, like vines, cling to trees or climb from rock to rock.

In transplanting ferns from their native woods we should prepare the soil for them like that from which we remove them. I prepare an artificial soil composed of rotted turf, leaf mold, muck and sand, choosing a shady situation. They are generally planted on a cairn; but it, as generally constructed, is the very reverse of ornamental. Rock work, as well as rustic wood-work, has a peculiar beauty, but either requires artistic skill and no little taste to make them things of beauty.

In the grounds of our country homes, as well as in cities and towns, it would add much to the beauty of the place to plant a few ferns with the flowers or by themselves. It would much relieve the bareness that is too often apparent.

### An Experiment with the Pear Blight.

A. C. reports to the Elmira Farmer's Club his successful restoring to health of a pear tree that was badly affected with the blight. The tree had been a good bearer, but he saw that the top boughs were dead down at least four feet, and every limb on the tree seemed more or less affected. The land was rich with farm-yard manure, but he concluded that it was wanting in mineral food, and ascertaining the mineral supply to the pear tree, he applied the remedy. He says:

"I called my man and dug away the soil for six or eight feet around the tree and down until the top roots were all uncovered, and then took 100 pounds of German salts (containing 15 pounds of pure potash) mixed it with four or five times its weight of earth, and spread it over the roots. I next took seventy-five pounds superphosphate, and mixed it with earth and spread it on top of the mixture with potash salts. Then I took fifty pounds of lime mixed with earth and spread on top of the potash and phosphate (these contain all the above minerals.) We then drew from the well twenty or thirty pails of water and gave the whole a thorough wetting, and in one week's time I could see that the tree was reviving, and blight apparently never extended an inch beyond what it was at the time of making the experiment. The tree bore a small crop of good pears in the centre of the top that summer, but at the extremities of the limbs they fell off. The next year it bore a large and fine crop of pears. None fell off and no insects seemed to touch them. The third year was the same, the crop large, fine and smooth, and this, the fourth year, the crop promises as good as the two previous years. Now this proves to my mind, (so far as one experiment can prove anything,) that what we call 'pear blight,' is simply starvation; that the mineral supplies in the soil had become exhausted and the tree was dying for want of food. I fed it, and it got well, and returned me many

times four-fold. And it prove a little more, for what had been a semi-annual bearer became an annual bearer, and I doubt much if most fruit, if properly fed, would not produce yearly crops of good fruit."

### When to Apply Liquid Manure.

One of the common mistakes made by amateur cultivators of flowers, is that of over-manuring. To grow plants in pots properly, but little crude manure should be mixed with the potting soil, unless plenty of foliage is required. The liquid form is the best in which to apply the stimulant, the chief value of which is that its effects are perfectly controllable and can be made constant if desired. No liquid manure should ever be given when plants are at rest, for if you do the growth is unnaturally continued, and the wood, not having time to ripen, is made worthless.

When the production of fine flowers is desired, manure water should be applied when the flower buds begin to show themselves and commence to swell. Applied to roses the flowers will be largely increased in size and brilliancy of color. To geraniums, fuchsias, and other similar plants, the supply should be given more continuously than to others.

When using guano a big tablespoonful to two quarts of water is plenty. Some authorities say it should be left standing until dissolved, but if the guano is put in the watering can first, and the water poured on it, it will be mixed sufficiently. This should be applied at least once a week.

### Flower Gardens.

It will soon be time to commence the preparation of all kinds of bedding stuffs for next year's display; in doing this the cuttings should be taken off carefully without disfiguring the beds. The cuttings can be struck in the open air, in boxes, pans, or pots. Upon the whole, we prefer rough wooden boxes, about two feet long, fifteen inches wide, and five or six inches deep. The bottoms of the boxes are perforated, so as to allow of free drainage. Too much stress cannot be laid on the fact that efficient drainage is all-important, when it is intended to keep the cuttings over the winter in the boxes or pans in which they are struck. Cuttings struck and established before winter in properly prepared boxes are easily kept over. We lay considerable stress on this point, because tens of thousands of cuttings of verbenas and geraniums are lost every winter from two causes: being put in too late, and the pans or boxes not being sufficiently drained. A layer of crocks an inch deep should be spread over the bottoms, and over the crocks a thin layer of moss, so as to prevent the soil percolating through, and so choking the drainage. Almost any kind of soil will do to strike the cuttings in; light garden soil, with a sprinkling of sharp sand, is as good as any.

### Look to the Grafts.

Now is the time to go over the grafts set last spring, and first of all apply additional wax wherever the original application has fallen off by the opening of the slit caused by the rapid growth of the graft, and close every portion of it again securely. Next clip off all grafts that have grown too freely in a straight stem, in order that they may branch out and add more strength to the main graft and form a more perfect growth. When left unpruned the birds sometimes light upon them and break them off close up to the stump into which they are set, and destroy them. This has happened in several instances with our own newly-set scions.—[Ex.]

An Exchange says: Obstinate and vicious horses, by having their attention removed from the object on which their mind is bent, can be made much more tractable than they otherwise would be. Some are very difficult to shoe, showing a disposition to bite and kick whenever the shoes touch them. A few grains of the ethereal oil of parsley, dropped on a handkerchief and placed before the nose of the horse, it is said never fails to quiet his irritable disposition and make him for the time being perfectly manageable.

Mr. Vick is quoted as saying that the "white worm" or any other worm, in pots, may be destroyed by sticking three or four common matches down into the soil, also one or two up into the drain opening. The phosphorus on the match is certain death to animal life, and a powerful fertilizer for plants.

Do you want hardy apple trees? Get a hardy variety. The Baldwin, often quite tender, has been found sufficiently hardy upon a thrifty Northern Spy or Red Astrachan stock. Be sure to have a hardy stock if you would have a hardy tree.

In the fruit garden the strawberry beds should have clean and thorough tillage now, so that they may fully recuperate the vigor and thrift taken from them in the production of the late crop, and the better to prepare them for a good crop next season; then too, when good young plants are desired for new beds, it is essential that the weeds and grass be kept away entirely, and the soil loosened up frequently with the hoe. The gooseberry crop this year has been of more than usual profit, and we doubt not will induce considerable planting. To any who expect or intend the planting of gooseberries as a market crop, we would suggest not only intelligent selection of soil, but the thorough preparation of the same,—a deep, rich, rather moist soil suits it best. Young grape vines should not be allowed to overbear; clip off fully half the blossoms—and finer fruit with less injury to the vines will be the reward. If the small, feeble looking bunches of blossoms, or newly formed fruit, were clipped off the old vines it would greatly improve what is left. Remove the old or fruiting canes from plants of raspberries and blackberries, soon after all the fruit has been gathered therefrom, and give the young growth the better chance to develop and thereby insure good results for next season.

## The Apiary.

### How to Introduce Queens.

BY G. W. DEMAREE.

To introduce queens there are but two methods employed that differ materially. One of these methods is to cage the queen to be introduced, and to place the cage (wire-cloth) down right on the frames over the cluster of bees and cover the bees, cage and all, with the bee quilt, and let them alone forty-eight hours, then turn up the quilt till the cage is exposed to view; now draw out the sliding door and let the queen run out among the bees. Keep your eye on her, and if she is permitted to run down among the bees without being molested, close up the hive and wait fifteen or twenty minutes, then open the hive gently and look up the queen. If the bees are not ready to accept her, you will find her imprisoned in a ball of bees, generally on the bottom board. This we call "balling the queen." Don't be nervous or in too big a hurry; just take a large spoon and dip up the ball of bees and turn them out into a pan of water. This will cause them to release her, and set them to swimming for life. Pick out the queen by catching her wings between the thumb and finger. She positively will not sting. Never take hold of the queen by the abdomen, as you may injure her.

Now, return her to the cage and place it back just as before, and leave it twenty-four hours and try them again, and so on till she is accepted. She will generally be accepted without all this trouble, but not always. The queen will generally begin to lay in one or two days after she is accepted by the bees, and after she begins to lay she is as safe as if she had been raised in the hive. For this reason I keep a watch over her till she has deposited her first eggs.

The other method is to cage the queen on a comb taken from the brood nest. The comb is taken out and all the bees brushed off of it. The queen is then placed on the surface of the comb, and an opened cage with thin, sharp edges placed over her and pressed slightly into the comb, thus imprisoning the queen. The comb is then hung back in its place. The bees will generally cut her out and accept her while all is undisturbed and quiet in the hive. If they fail, however, to liberate her in forty-eight hours, the comb should be lifted out and a partial opening made with the point of a knife under the edge of the cage. The inquisitive little subjects will see the point, and will proceed to liberate the queen.

As a modification of the above methods, I make the sliding doors of my cages so that they will project above the bottom, or, rather, the top, when the cage sets wire-cloth down, and let this projecting sliding door pass up through a slit made with the point of a knife in the quilt, so that I can draw it out and thus liberate the queen without the bees knowing it.—[Bee Journal.]



## The Dairy.

### Essay on the Management of the Dairy in Respect to Butter.

BY S. E. SHERWOOD, LAKEFIELD, N. B.

I find in the management of the butter dairy three things requisite to success. These are: coolness, cleanliness and care. To insure the first, in my experience, a large cellar was used. During the day the door and windows were kept closed, but at night the windows were opened to procure the circulation of pure, cool air. The milk was set in ordinary pans on shelves suspended from the ceiling, and in the warmest weather these were filled only part full. By these means I have been able to keep the milk at a low temperature through the warmest weather.

As to cleanliness in the dairy, I find that many of our best housekeepers err more in this than they are aware of. Cellars which look neat are not always thoroughly clean. These should not be allowed to contain any bits of decayed vegetables which may have been left from winter. The ground floor should be thoroughly scraped and sprinkled with lime, and the walls should be well whitewashed. Shelves should be washed often, but the greatest care should be taken in cleaning the milk vessels. I generally wash these through two waters, the last containing soap or soda, and then scald with plenty of boiling water. (A little lime-water is good added to the last water.) I then turn in the sun to dry, after which they are taken to the dairy ready for use. Pails, cream-dish and churn should not be neglected, but should undergo a similar process of cleaning.

Care is implied in these processes of cooling and cleansing, but there is much more to be done which might come under the general head of care. When the milk comes into the dairy, care must be exercised in the straining, placing a proper amount of milk in each dish, and in placing the dishes in their proper order upon the shelves, for if these become "mixed up" it makes confusion when skimming time comes. In warm weather care must be taken not to place the pans too closely together. There should always be a dish of milk set separately for family use, so that the dairy milk may not be disturbed, which would cause the milk to sour more quickly.

As regards the length of time to leave the milk before skimming, I generally leave it in warm weather until it thickens, but no longer, and sometimes it is not advisable to leave it that long. I think the best plan is to skim as soon as the cream is done rising, if we can ascertain when that is. Experience has much to do in this matter.

The cream should be well soured before churning, and of a temperature of 62° Fahr. in summer, though in the warmest weather it will be better to have it as low as 60° if it can be obtained. We use dog-power churns and set the big Newfoundland at work as we go to breakfast, and, as soon as we are through, we find our butter waiting to be attended to, and our churning waiting for his drink of buttermilk.

Some try to advocate the plan of working the buttermilk out of the butter, but we could never come to such a conclusion. Plenty of the coldest water available is to my mind indispensable. In fact I don't see how butter can be made to keep well when particles of the milk are *worked into it* instead of being *washed out of it*. When the butter is salted it should not be worked until it becomes oily, as I have seen some do. Nothing can be more hurtful to butter than this *mixing*. While cooling, the butter should be slightly worked up often in order that the salt may act upon each part. This causes the pickle to start more quickly, which, when thoroughly worked out, leaves the

butter ready to pack. When the tubs are filled I cover with cloths and salt, and have no trouble in my butter keeping as long as required.

It is really painful to see the stuff some otherwise good house-keepers sometimes bring upon their table as butter, and all for the want of coolness, cleanliness or care.

### Facts about Milk.

Cream cannot rise through a great depth of milk. If milk is, therefore, desired to retain cream for a time, it should be put into a deep, narrow dish; and if it be desired to free it most completely of cream, it should be poured into a broad, flat dish, not much exceeding one inch in depth. The evolution of cream is facilitated by a rise, and retarded by a depression of temperature. In wet and cold weather the milk is less rich than in dry and warm; and on that account more cheese is obtained in cold than in warm, though not in thundery weather. The season has its effects. The milk in the spring is supposed to be the best for calves, in summer it is best suited for cheese, and in autumn the butter keeping better than that of summer. Cows less frequently milked than others give rich milk, and, consequently, much butter. The morning's milk is richer than the evening's. The last drawn milk of each milking, at all times and seasons, is richer than the first drawn, which is the poorest.—[Irish Farmer.]

### Good and Bad Milkers.

A few poor cows are quite apt, in one way or another, to work into a dairy, and by their diminutive yield barely pay for their keeping, and perhaps not even that, but cause an actual loss. A dairyman of our acquaintance, having forty cows, found, by measuring the milk, that he had five in his herd, which did not give milk enough in the whole season to pay for their keeping, by \$25 apiece. He had five others that paid their keeping and \$25 a head more. The profit and loss on these cows just balanced each other; he kept the ten cows a year for nothing, losing the whole of his time and labour in caring for them and their milk, besides the depreciation of stock and the interest on the cost, which were not taken into the reckoning. When I was collecting cows for the first dairy I set up, an aged and observing dairyman said to me: "Look out for good cows; there is a great deal of money made in this country by dairying, but it is all made from the good cows." The difference between a good cow and a poor one is not generally appreciated. Oftener than otherwise the price at which cows are bought and sold is made to accord with the amount of milk they will give. But this is not a sound way of estimating their value. Beef cattle may be estimated by the pounds of beef they will make. A bullock that will make 500 lbs. of beef may be worth half as much as one that will make 1,000 lbs.; but the cow that produces only 100 lbs. of butter a year, is not worth half as much as one that will make 200 lbs. in the same time. As it will take the former cow two years to make as much butter as the latter will in one, she will cost the owner a year's keeping more than the other cow will to get the same amount. The butter from the poor cow costs double what it does from the good one, and is produced at a ruinous rate to the farmer. Such a cow will not pay the cost of keeping, and is only fit for the shambles. She ought certainly never to occupy a place in the dairy. But the loss sustained by a small yield of milk is not all occasioned by a bad selection of cows. Many cows which otherwise might be classed as profitable milkers are made unprofitable by the treatment they receive at the hands of the dairyman. Careless milking, harsh treatment, worrying, and exposure to severe storms and to extremes of heat and cold, abate the flow of milk, and occasion much needless loss. Twenty-five per cent. variation in the annual product is easily made by kindness and severity. Comfort and a satisfied quietude are very efficient in promoting a liberal flow of milk. Full feeding is equally important, as the want of it is, perhaps, the most prolific cause of abatement in the returns of the dairy. In a large percentage of dairies the yield of milk is annually made to dwindle down to the limit of profitable production, and sometime below it, from deficiency and irregularity in the food supply. Very few dairymen give their cows as much as they need to eat, except for a short time in the season. In the spring and early summer, when the ground is moist and warm, a vigorous growth of grass is produced, and a flush of food supplies the cows for a time with all they can appropriate, and crowded bags and flowing pails attest their

full supply. But presently, in the long, hot, and dry days of August, the ground becomes parched, and the grass stops growing and dries up. If the cows can fill themselves during the day, they are commonly allowed to run without any additional food. As grass fails in quantity and quality, and more labor is required to get it, less is consumed, and the milk diminishes.—[Irish Farmer.]

### An Oleomargarine Bill in Congress.

Hon. Ferris Jacobs, jr., from Delaware county, N. Y., has introduced into the Congress of U. S. A., a bill to regulate the manufacture of oleomargarine. By its provisions oleomargarine is made subject to a tax of one cent per pound, and all packages or parcels of it offered for sale, either at wholesale or retail, must bear the special stamp denoting the payment of the tax thereon. A heavy fine accompanies a failure to comply with the law. The bill can not be reached during the present session, and there will be ample time for discussion of its merits previous to another session. The proposition to tax the article is certainly radical, classifying oleomargarine, as it would, in the same rank with tobacco, spirits, and other deleterious or luxurious manufactures. The tendency of legislation at the present day is toward the abolishment of special taxes, rather than their imposition, and the bill will have to encounter this tendency and overcome it in order to become a law. Mr. Jacobs is from one of the largest butter counties in the state, and is probably following out the desire of his constituents by urging the passage of the bill.

### How Fine Butter is Made.

The process of making butter is an important one, for the best butter may be spoiled and poor butter may be improved in the working. When the butter is churned it is taken from the churn and placed on a smooth maple, birch or chestnut table or other butter worker, or put into a bowl. If the churn will admit of it, the buttermilk may be drawn off, and clear, cold water poured into it, and the butter washed in that way in separate waters until it runs off quite clear, and the butter is quite free from milk. This is indispensable if the butter is expected to keep well. It is then salted at the rate of one ounce to the pound of butter. The butter is dressed out with the ladle, and never to be worked by the hand under any circumstances, and the salt is spread over it; it is then doubled and pressed out again and cut and gashed with the ladle, but never rubbed or plastered, but only squeezed and pressed, until the salt is pretty evenly mixed; it is then put away in a cool place for 24 hours at least, as may be convenient. It will then appear streaky and patchy, and is worked over in the same way as before until it becomes free from this streakiness and even in color, by the thorough mixture of the salt. This is done by squeezing it with the ladle, a small piece at a time, and pressing it out in a flat sheet, doubling it, and again squeezing it out, so as to get all the salt and moisture in it evenly through the mass. The color is then alike all over. No more working is then required. The first working requires about 10 minutes for 20 or 25 pounds, the second about 15 minutes. It should then break with a coarse, uneven fracture, much like that of a piece of beeswax, and should appear when cut of a granular texture and quite free from greasiness, and fine drops of clear brine should follow the knife as it is cut. It is not well to try to get all the moisture out of the butter, as this improves its texture and flavor. If the cream has been well kept and the butter well made and churned, this should have a very sweet and fragrant scent, quite free from acidity or pungency. It is a peculiar scent, and belongs only to the best butter, and when this odor is absent, the right flavor is wanting, because the scent and aroma, and the flavor as well, are all attributes of pure fresh butter. The butter should be packed as soon as it is worked the last time; no butter needs a third working; the package should be quite free from all disagreeable scent of impurity; white oak, spruce, or white ash are the best materials for the tub or pail. White oak has an agreeable scent when fresh and stands first for butter packages. The package should first be scalded, then rinsed in cold water, then rubbed with a little salt, then rinsed with a little water, just enough to wash off the salt, but not to freshen the wood, and the butter is packed in the damp pail at once, being pressed down solid so that no air-holes are left. The pail is filled completely full, and may be covered with piece of muslin dipped in brine, or with paraffine paper, and closed up at once tightly and put away in cool place or sold, which is the best plan. [N. Y. Times.]



**Sir John Bennet Lawes, Bart. F. R. S.,  
F. C. S., L. L. D.**

We present herewith a portrait of the distinguished agriculturist. He was, says the London Times, born in 1814, and succeeded to his estate of Rothamsted, in Hertfordshire, in 1822. Was educated at Eton and at Brazenose College, Oxford, where he remained from 1832 to 1835. During his academic career he displayed at once a strong partiality for the laboratory, and on leaving the university spent some time in London for the purpose of studying in a practical manner the science of chemistry. Possessed of independent means, a handsome property, and a beautiful old manor house and domain, Sir J. B. Lawes at once interested himself in agriculture. In October, 1834, he first commenced regular experiments in agricultural chemistry, on taking possession of his property and home at Rothamsted, and from that date up to the present time he has unceasingly been applying his scientific knowledge to the solution of questions affecting practical agriculture. In the commencement of his experiments, among other subjects the effect of bones as a manure on land occupied his attention for some time. A friend and neighbor, the then Lord Dacre, particularly directed his notice to the fact that bones were very variable in their effect in different soils. Several hundred experiments were accordingly made, some upon crops in the field and others with plants in pots, in which the constituents found in the ashes of plants as well as others were supplied in various states of combination. Striking results were gained from these experiments, in which the neutral phosphate of lime in bones, bone-ash, and apatite were rendered soluble by means of sulphuric acid, and the mixture applied for root crops. The results obtained on a small scale in 1837-8-9 were such as to lead to more extensive trials in the field in 1840-41, and in the final taking out of a patent early in 1842. This being done, Sir J. B. Lawes established large works in the neighborhood of London for the manufacture of superphosphate of lime, by which name the manure is known which has produced such a revolution in the science of agriculture.

Mr. Lawes has also received a gold medal from the Imperial Agricultural Society of Russia. Last June the emperor of Germany by imperial decree awarded the gold medal of merit for agriculture to Mr. Lawes and Dr. Gilbert, jointly, in recognition of their services for the development of scientific and practical agriculture. The honor, therefore, which has been recently conferred upon Mr. Lawes is merely a final and national recognition of his reputation and life work.

The results of the Rothamsted investigations are to be found in the journals of the Royal Agricultural Society of England, the reports of the British Association for the Advancement of Science, the journal of Chemical Society of London, the proceedings and transactions of the Royal Society of London, the journal of the Society of Arts, the journal of the Horticultural Society of London, the Edinburgh Veterinary Review, the reports of the Royal Dublin Society, the Philosophical Magazine, the Agricultural Gazette, the Chemical News, and in official reports and scattered pamphlets and newspaper letters.

Rothamsted is situated some twenty-five miles from London, in Herts, and is easily accessible to visitors, Harpendon being the railway station. Mr. Lawes' manor house is a remarkably fine specimen of old English architecture, and the domain surrounding it contains some magnificent timber, including an avenue of limes, which, for size and regularity of dimensions, are perhaps unsurpassed in the south of England. Around the family mansion lie the 500 acres which form the experimental station of agricultural research, with which Mr. Lawes' name is so intimately connected. It is not only entirely maintained by him, but he has further set apart a sum of £10,000 and certain areas of lands for the continuance of the investigations after his death. The staff of skilled and

scientific labor is very considerable, including often three chemists, two or three general assistants, a botanical assistant with several boys under his supervision, three computers and record keepers, and a large permanent laboratory staff. There are now stored in the laboratory about 30,000 bottles of samples of experimentally-grown vegetable produce, animal products, ashes and soils. The field and feeding experiments, including the making and application of manures, the measurement of plots, the harvesting of crops, the taking of samples, the preparation of them for preservation or analysis. Sir J. B. Lawes' investigations have embraced (1) researches into the exhaustion of soils, including experiments on crops; (2) researches on the principles of rotations and fallow; (3) on the mixed herbage of grass lands; (4) on the process of vegetation generally, including researches on the action of manures; (5) on the origin of nitrogen in plants; (6) on the feeding and fattening of cattle, and generally on stock as meat producing and manure making machines; (7) on rainfall and drainage; (8) on botanical characteristics; and (9) on the chemistry of the malting process, and the comparative value of malt and barley as food for cattle. Besides this, Sir J. B. Lawes has, in conjunction with Prof. Way, acted upon a royal commission, appointed in 1857, and extending to 1865, in which

all druggists, is said to be harmless to man and beast, and we know it to be death to insects. It would be well worth trying, and we would like to hear from some one who has given it a test. There is great need of some simple drug or appliance that will protect cows and horses from the insects that annoy them so much.

**Preparation of the Wheat Ground.**

Wheat demands for its perfect development, among other favorable conditions, besides showers and sunshine, depth and richness of soil, thorough tilth, and freedom from excess of moisture. Soil that will yield good clover will bear good wheat. Wheat follows corn very well, but this involves rather late sowing. Where there is a market for new potatoes, which, as they are intended for immediate use, may be freely manured, the potato ground—well plowed and harrowed with a dressing of bone-dust, superphosphate, or, if there is much organic matter in the soil, with a dressing of lime—forms an admirable seed-bed for wheat. One of the best rotations, including winter wheat, is corn on sod, early potatoes, wheat, clover and timothy, the grass to be mowed as long as it is profitable—the manure being applied in the hill for corn, and put on broadcast very liberally for the potatoes.

Winter wheat follows none of the usual root crops well, for it ought to be sowed and up before the middle of September, although it often does well sowed nearly a month later.

When wheat follows clover, a crop of clover-hay is often taken off early, and a second crop allowed to grow, which is turned under about the first of August for wheat. In case we have very dry weather, the growth of clover will be meagre. If, however, the clover stubble be top-dressed at once, as soon as the early crop is cut, with a muck and manure compost, or any fine compost, "dragged in" with a smoothing harrow, the second crop will be sure to start well, while none of the manure will be lost. Lime, or ashes, if they can be obtained, are to be spread after plowing under the clover and manure, and thoroughly harrowed in. Forty bushels of ashes to the acre is about right, and where hearths of old charcoal pits are accessible—ashes charcoal-dust and baked earth, all excellent—they form a good substitute for ashes and for lime. Sixty to 100 bushels of evenly dry-slacked lime, which, if it could have been mixed with an equal quantity of soil or sods during the slaking, would be all the better, is a usual application.

The following practice, on heavy land especially, is excellent:—

Turn under the first crop of clover as deep as possible, just before it is in full blossom; cross plow the first or second week in August; then put on 75 bushels of lime or more, and harrow it in lightly. Sow early after a soaking rain, and apply at the time of sowing 250 pounds or more of superphosphate to the acre.—[American Agriculturist.]

A Committee selected from all counties has been formed for the purpose of making arrangements to hold an International Exhibition of animals connected with agriculture at Hamburg next year. The Committee are of opinion, looking back on acknowledged benefits to the farming interests which resulted from the first International Exhibition held there in 1863, that a repetition of the undertaking, after a lapse of twenty years, will be productive of similar service to the agricultural world. The proposed exhibition will comprise the following departments, to be presided over by special committees:—Horse breeding, including mules and asses; cattle breeding, sheep breeding, pig breeding, bee culture, pisciculture, poultry breeding, stables, tools, &c., for the different branches of cattle breeding; and scientific aids to the above. The general programme, as well as those of the separate departments, may be procured free of charge from the Secretary of the Exhibition Committee, Dr. R. Suleman, Hamburg.



SIR JOHN BENNET LAWES, BART. F. R. S., F. C. S., L. L. D.

an extensive investigation was undertaken on the application of town sewage to different crops, but especially grass. Comparative experiments were also made under this commission on the feeding qualities of the differently grown produce; the amount of increase yielded by oxen, and the amount and composition of milk yielded by cows being determined. We are pleased to see so marked a Royal recognition of British agriculture.

**Flies.**

The American Dairyman says:—We are now approaching the season when the fly nuisance very seriously curtails the supply of milk, and every dairyman should do all in his power to help the cows to protect themselves from this all-pervading nuisance. When cows are turned to pasture, there is no relief for them except deep water for them to stand in, and then they lose so much valuable time in the water, when they should be grazing, that the want of economy in such practice is seriously felt. When the cows are in the stable, they can be well protected from flies by carefully darkening the stable. This is often done at the expense of ventilation, or the fresh air supply, which should be guarded against, for if the cows become too warm, they suffer from the heat as much as they would from flies. Persian Powder, a yellow dust that is sold at reasonable prices by



**Stock.**

**Shadeland.**

Messrs. Powell Bros. have established one of the most extensive stock farms upon this continent at Springboro, Crawford county, Pa.; it is upon the Erie and Pittsburg Railway, and has direct communication with the leading railways of the States, so that passengers and shipments are convenient by way of any of the great routes. In trotting and roadster stock, they have now more than 100 head of young things, matured driving horses, brood mares and stallions, nearly all of the justly celebrated Hambletonian strains, which is undoubtedly the very best trotting-horse blood of America. It was by far the finest show of really fine style, high spirited, handy going horses we have ever seen on a breeding farm. They are breeding in this line the gentleman's roadster, with speed combined with fine style, superior endurance,

the very top herds of Holland, with the determination to establish the best herd at "Shadeland" that there is in America.

**Contagion in the States.**

[From our Chicago Contributor.]

The fact that there are and have been contagious stock diseases in the States is one which even the most "precautious" cannot deny. It has been pretty clearly proven that no lung plague has ever been found west of the Alleghany Mountains, but under the present system, which permits stock being changed from one section to another without inspection, or with incompetent examination at best, there is no telling how soon the awful scourge may take root in the very heart of the stock growing regions of the West.

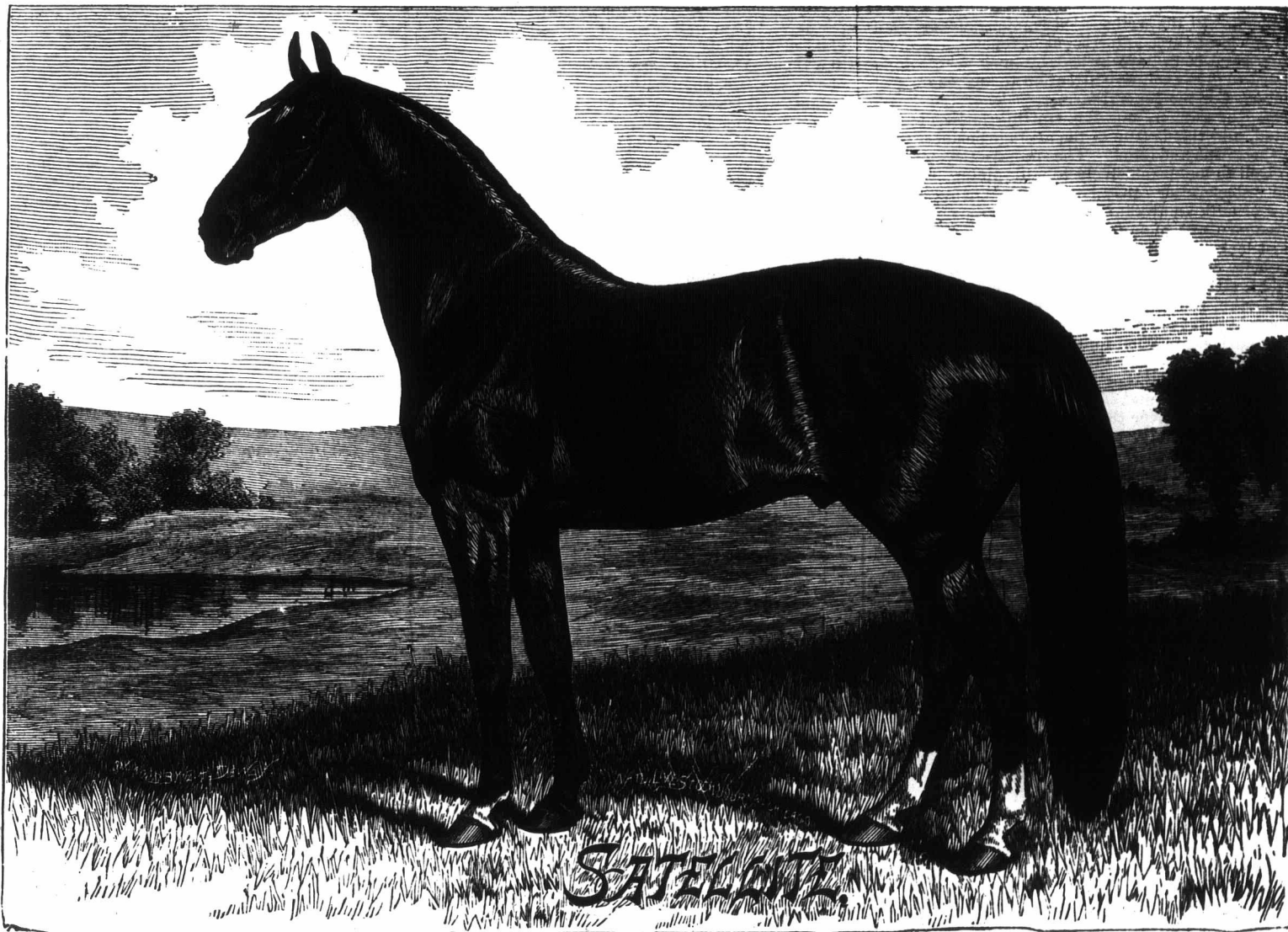
Ex-Secretary of the Treasury, Windom, who appointed what is known as the Treasury Cattle Commission, whose business it is to prevent and stamp out in the United States the dreaded pleuro-pneumonia or lung plague, displayed considerable good

Eastern markets when ready for the shambles.

However, this calf trade being detrimental to the interest of the Western breeders, they of course took every means to discourage it, by pointing out and magnifying the possible danger of making the calves the medium of spreading infection over the West. Their axe-grinding champion, who depends upon their support of his journal, who, by-the-way, is a member of the Commission, has studiously applied himself to the task of shutting off this calf trade, and drawing his \$10 per day salary while in actual service.

The Commission, or one or two of its members, have succeeded in appointing an inspector for the Chicago Union Stock Yards, whose duty appears to be most anything else but to look out for unhealthy animals; at least he is never seen where one would naturally look for such an official, in and about the stock pens.

Now this calf business is a good thing to investigate thoroughly, but the point is, there has never been any disease known in the localities from whence



spirit and intelligence, without catering at all to the sportsman's calling, and the demand for their horses in this line fully equals their ability to supply. This demand is not confined alone to America, various orders from Europe having been filled by them, and others now in hand. At the head of this department stand their noted stallion Satellite, whose portrait we give on this page, and Enchanter. Their brood mares are all by such noted sires as Rysdyk's Hambletonian, Volunteer, Alexander's Abdallah, Almont, Thorndale, Almont Rattler, Ericsson, etc.

From 100 to 200 imported Clydesdale horses are usually kept on hand. Messrs. Powell Bros., after many years of very close study of the business and extensive observations, claim the Clydesdale to be the superior of any other draught horse, and the only draught-horse that has a recorded pedigree in its native country; but to be able to accommodate all tastes and demands of their customers, they have imported several French Percheron or Norman horses, and invariably show them with the Clydes. A fine lot of Holstein cattle have been selected from

judgment in making such a provision, and if he had been as able to secure efficient commissioners who had no "axes to grind," the Americans might now be in a fair way to bid defiance to the cattle diseases which have for ages baffled the efforts of the English people to exterminate.

In 1879 and 1880 there was a tremendous flow of dairy calves from the district of Western New York, and Pennsylvania, the calves coming from sections where there was very little corn or hay upon which to fatten them, to the west, where there was an abundance of fattening material, and where feeders were glad to get the young things to stock their farms. A great many of these calves were highly bred, and nearly all were above the common western average, and the trade appeared to be meeting with such favor that it was thought it would reach enormous proportions in a few years, because everything was in favor of the business. It seemed eminently fitting that the young dairy cattle of the East, which could not there be matured to good advantage, should be shipped out West where feed was plenty, and returned to, the

they were shipped, but on the other hand, it is positively known that the contagion does exist in many counties on the Eastern sea-board, and the question naturally arises, why do they not lay the axe to the root and take measures to stamp out the disease where it is known to be, and not waste so much time and government money in thrashing around the country looking for it in unlikely places?

As matters now stand the problem of how to free the country from contagious diseases does not appear any nearer solution than before this Cattle Commission was appointed, while there is constantly staring them in the face the fact that pleuro-pneumonia does exist in the East, and the danger of its spreading over the West is imminent.

According to returns for July to the department of agriculture the area planted to corn throughout the United States is four per cent. greater than last year, and average condition of the crop is 85 against 90 in July last.



### General Purpose Animals.

Almost all intelligent breeders recognize the fact that special fitness for any one purpose is rarely accompanied by equal fitness for any other purpose. The typical milch cow is not the animal for a beef-making animal; the fast trotting or running horse is not a first-class animal for heavy draft. With this law in mind, it is natural to give and act on the advice—First choose what you want your animal for, and then breed with exclusive reference to that one purpose. For a large class of breeders and stock raisers, this advice is the best that can be given. But it is a serious mistake to give this advice without qualification. Specialty farming and specialty stock-breeding are best for a considerable number, but are not best for the mass of farmers. There is a good demand for heavy draft horses, also for fast-trotting or fast-running horses. The breeder of first-class milch cows will find a ready sale for them, without reference to their capacity for making beef. The breeder of sheep, giving phenomenally large fleeces, need trouble himself comparatively little about their mutton character.

But while all this is true, we must not forget the fact that the largest demand is for general-purpose animals. In the well settled portions of our country, at least three animals out of four—certainly of horses and cows—are owned by men who cannot afford to give exclusive attention to any one excellence. For the general farmer, neither the heavy draft, the runner, nor the trotting horse, is best fitted, and this is true of the average business horse in the towns and cities. The special dairyman may do well to look exclusively to milk-giving qualities; the "steer-raiser" may be wise in counting a large flow of milk an absolute fault for his purpose. But three men out of four, who rear and own cows, must look to both milk and beef for profit. The majority of sheep owners cannot afford to be indifferent, either to the fleece or the carcass. It is not a mistake, then, to claim as a recommendation for a breed, that it is reasonably well fitted for a secondary purpose, or good for two distinct lines of work. If it be admitted that the Guernsey is an excellent cow for the special dairyman, her larger size and more fleshy form makes her to be preferred, by the general farmer, over the Jerseys. In just so far as Shorthorn breeders can prove the correctness of their claim that their favorite breed is superior to the Hereford or Angus in milk giving, can they properly claim better adaption to the wants of the mass of farmers. Every successful endeavor to improve the form, increase the size, and improve the quality of mutton of Merino, makes the breed more valuable for central-western farmers, whatever may be true for the flock owners of the great plains. If it can be truthfully claimed of any class of horses that they have the disposition and form fitting them for good road work, alongside with sufficient size and strength to adapt them for the plow or ordinary draft purposes, such a breed of horses will meet the wants of a larger number of Americans than will any other one class.

The "general purpose" animals will rarely command the highest prices; a first-class base-ball pitcher will command a larger salary than a good mechanic; but the market for ball pitchers is more easily supplied than is the demand for good mechanics. A good average horse or cow will not sell for nearly so much as one which, however valueless for other purposes, is a model for some special use.

In no sense is it designed to depreciate the value of "specialty animals," or the value of the work done by the breeders of such. Our thought has simply been to emphasize the fact that—with our domestic animals, as with man—there is room for the "unremarkable."—[Breeders' Gazette.

An interesting letter appears in an English paper from a firm of tanners at Hereford, who call the attention of stock owners to the loss occasioned by "the grubs called warbles, which are deposited by a fly every summer on the backs of cattle." They state that cattle afflicted with warbles lose from 10 to 33 per cent. of the nutriment they should derive from their food. But in addition to the pain caused and the percentage of food wasted, the hide is damaged, and generally spoiled for the purpose it should be suited for, because of the warble-holes through the best part of it. As the fly instinctively selects the best cattle to receive the warbles, people are led to believe that the animals so tormented are most favored and thriving. They mention that the larvae may easily be destroyed in the spring, by using a probe of ivory, and washing with a cheap lotion, which would prevent the fly striking young stock. With a little attention the fly would thus soon be exterminated.

### Mixed Feed for Hogs.

We have long held the opinion that hogs need hay at certain times in certain quantities just as horses or cattle do. They certainly crave it, and we have known cases where hogs while being fed on still slop have eaten large quantities of clean, bright rye straw with great benefit in the way of keeping up health and thrift. A hog raiser who has made some experiments in the way of giving mixed feed to hogs gives a chapter of his experience as follows:

"My experience the last few months convinces me more than ever that we must raise pork as cheap as possible if we are to sell at present prices at any profit. I have been in the habit of feeding my young pigs soaked corn pretty freely; but have come to the conclusion that bran and shorts or rye and oats ground together and fed as a thin swill is better. I think it is better cooked, and in cold weather fed warm. Feed no more each time than they will eat clean. I am well pleased with my experience with the Red Brazilian Artichoke as a cheap food for swine, and shall this year increase my fields to twenty acres. Last year was a poor year for them, and yet mine yielded 300 bushels per acre. I am well satisfied that they sometimes yield 800 bushels per acre. The hogs seemed to like them as well as corn, and, where they have plenty of them, they will not only grow but fatten; in fact, will leave their corn to eat them. I tried to secure a nice lot of clover, (second growth) but lost it with the storms before I could stack it. I think if I had such a stack of clover now I could make good use of it, cut short, dampened and mixed with ground feed. To fatten with or finish, I admit corn is king, but my experience convinces me it is not the best food for young growing hogs. They need coarser or more bulky food, and some exercise to develop large forms, with plenty of muscle and healthy digestive organs. When they have reached this stage, they are ready to receive finishing touches that the corn and leisure can give, and, if placed on a cheap market, will still do the breeder some good."

There is no doubt but that the above lays down sound principles for the production of pork at a much less cost than where hogs are fed exclusively on corn. Hogs of course will become exceptionally fat on corn, but we are satisfied that they can be kept on mixed feed to better advantage, so far as profit to the producer is concerned.—Ex.

### Judging Horses at Fairs.

So many complaints have appeared in the various agricultural and other papers on the manner in which animals are judged, that perhaps a few remarks on this subject may not be out of place. In the first place I must say something on the judges' behalf, and I think I may safely say that, taken as a body, the gentlemen who undertake the thankless office know as much, and probably more than the critical public round the judging ring, while they are infinitely more capable of seeing the animals perfectly from their position in the centre of the ring, than those standing on the outside, besides being better able to see any slight defect by closer examination than those at a distance. I may also say that the judges, as a rule, take an immense amount of pains, and give their decisions fairly and without prejudice. Still these decisions are not always correct; how can they be expected to be, as no man is infallible, and tastes differ? Even when horses are very evenly matched, two equally good judges may each select a different one; perhaps one from being a heavy weight would select a weight carrier, and a light man would take a better bred animal in preference.

All due allowance for these things should be made by their numerous critics, and let those that find fault be put in the place of those whose judgment they disapprove of, and perhaps they may find to their cost that it is easier to be judged than to judge! That mistakes are made and often very great ones, is no doubt the case, and when it does so happen it is a great injustice to those exhibitors who have taken so much pains to send their favorites to the showyard.

When one sees the judges take every pains, thoroughly examining every point, handling the legs, carefully picking up and looking at the feet, testing the action of every pace in the saddle and in hand, and when the merits of several animals are nearly equal, riding them, to see if their manners are good, and a hundred other things, that can be found out on a horse's back that no man can tell by looking at him—then if a mistake is made, it must be put down to error of judgment. But, on

the other hand, if one sees the judges sauntering about the ring, talking and chatting to the stewards, &c., turning their backs at the critical moment the horses are passing, ordering a lot out in an off-hand manner, and selecting a few to pick from without ever afterwards going over the rejected lot to see if they had not overlooked one; then if a mistake is made, as is probably the case, the public and the badly-treated exhibitors have a right to raise their voices against such judging.—[Agricultural Gazette.

### Growth of Colts.

In order to winter a colt well, and have him come out a fine, showy, sturdy animal in the spring, particular attention must be paid to his growth during the first summer and autumn. If the mare's milk is at all deficient to keep the colt in good flesh and thriving steadily, it is best to have recourse at once to cow's milk. Skimmed milk answers very well for this purpose, especially if a little flax-seed jelly, oil or cotton-seed meal, is mixed with it. A heaped table-spoonful night and morning is enough to begin with, when the colt is a month old. This can be gradually increased to a pint per day, by the time it is six months old, or double this if the colt be of the large farm or Cart Horse breed.

Oats, also, may be given as soon as they can be eaten. Begin with half a pint, night and morning, and go on increasing, according to the age and size of the animal, to four quarts per day. These, together with the meal above, should be supplemented with a couple of quarts of wheat bran night and morning. The latter is excellent to prevent worms, and helps to keep the bowels in good condition.

Colts should not be permitted to stand on a plank, cement, paved, or any hard floor the first year, as these are liable to injuriously affect the feet and legs. Unless the yard where colts run in the winter has a sandy, or fine, dry, gravelly soil, it should be well littered, so as to keep their feet dry. Mud, or soft, wet ground, is apt to make tender hoofs, no matter how well bred the colt may be. One reason why the horses in one district grow up superior to those in another in hoof, bone, muscle and action, is because it has a dry limestone or siliceous soil. When the mare is at work, do not let the colt run with her; and if she comes back from her work heated, allow her to get cool before suckling the colt, as her over-heated milk is liable to give the foal diarrhea.—[National Live Stock Journal.

### Stable Management.

The feet and legs of horses require particular attention. It is an old saying with horsemen, "keep the feet and legs in order, and the body will take care of itself." The legs are the first to fail. The horse when brought in from severe, protracted exertion, should be rubbed down dry. His legs from the knees and hocks down, should be well hand-rubbed, so that friction will create insensible perspiration; that will tend to prevent swelled legs, stiff joints, contracted tendons, and sprung knees. When the legs are fevered from overdriving, they should be bandaged with wet cloths, to take away the heat, and prevent wind-galls, that prove eyesores, and which, without diminishing his capacity for labor, materially affect the market value of the horse.

The plan of stuffing the feet twice a week in dry weather, is adopted by many with horses used for fast work. The stuffing generally used consists of equal parts of clay and cow dung. Moss or tow is a cleaner stuffing and quite superior to clay as an antidote for thrush and frog diseases. It can be packed in dry and wet afterward. It will leave the feet sweet, clean and soft, when washed out regularly with warm, salt water. Stuffing prevents the feet from becoming dry and brittle.—[National Live Stock Journal.

Stamina, endurance and speed are characteristics of the thoroughbred horse. His bones are smaller than those of any other breed, but of finer texture. A piece of glass will scrape away the bone of a common horse easily, but this is with difficulty done with that of the thoroughbred, which is as hard as ivory. The activity and power possessed by that breed make it a desirable cross for our farm horses, and although smaller than the Clydesdale or Percheron, are not inferior in strength proportionately. This breed transmits its qualities with certainty.



**Contagious Diseases.**

E. A. M. Gibson, Delaware, paid a visit to remonstrate with us upon what he described as a harsh and uncalled for article in our last number upon the diseased cow in quarantine at Point Edward, saying that we were not writing in the true interest of the farmers of Canada, that such articles were calculated to injure those breeders of cattle who were interested in the improvement of our stock, and tended to prevent the introduction of superior animals into the Dominion. He is of the opinion that Tuberculosis is not contagious, but hereditary, and that there is not the slightest danger to be apprehended from such disease, but admits that any animal swallowing the saliva of an infected beast might take the disease. He has a cow that had been sent to Chicago, and after remaining there only two weeks, was returned to this country; she was detained in quarantine, and was put in the adjoining stall to the cow we mentioned, and run in the same yard. He was aware of this disease being at Point Edward, and also knew of Pleuro-pneumonia at Chicago, yet considered that as his cow had only been away from Canada so short a time the long quarantine prescribed was altogether unnecessary. He further stated that he and other stock men would not be so foolish as to bring ruin on the herds by introducing contagious diseases among them. He admits that the quarantine is imperfect, but considers that as much was done as could be with the money devoted for that purpose, but to insure complete isolation at least two acres of land and separate buildings would be required for each animal, and that we were causing unnecessary alarm. He further said that we had benefited agriculture by our writings, and appreciated our efforts, but considered that our remarks upon the cattle diseases and quarantine were calculated to do much injury to stock men.

**Sheep Farming.**

During the last couple of years, but more especially the time we are now passing through, sheep farming has assumed a feature of some importance as regards demand, and which, we have no doubt, will tend much to the advantage of many of our small farmers, who especially devote themselves to this branch of farming. It is to be very much regretted that notwithstanding the pretty general diffusion of good rams throughout the country, we see the short-sighted policy adopted by many sheep-owners of using either ram lambs or inferior old ones, because thereby they are enabled to save a few dollars. Although the price for wool is at present low, mutton is bringing a good figure, and holders of inferior bred sheep are obtaining more money for their sheep than they ever thought of getting, and hence they are satisfied; but we wonder if such people ever contrast their prices with those which other people get for well-bred, well-cared for animals. This system of keeping inferior animals where good ones could be equally well kept, and of course with a better profit, is very reprehensible, especially so when we remember the many facilities for getting good ewes and rams. To possess a fairly good flock of ewes, and a ram of good dimensions and good wool, and of no chance breeding, is to have the first thing needful, but this in itself will not be sufficient, if the necessary amount of forethought, energy and intelligence is not forthcoming, and it is often owing to the want of these latter qualifications that so many failures in sheep farming take place. On farms that are not strictly sheep farms, but where cattle are kept, we think it a profitable venture to run some sheep, that is if the requisite time and attention can be given to them; but in such cases we are of opinion that the sheep ought not to be folded with the cattle, but should be made to follow the heavier stock, as they are moved from field to field. We are aware that many good agriculturists are opposed to the mixed system of feeding sheep and cattle, but we believe that practical experience in the matter has long since proved that it is beneficial to the land, as well as profitable to the owner. We have often seen fields in dry summer time so parched, that although they were intended for cattle, no cattle could live on them, while sheep would not only have found substance but would have fattened on them; this we hold was a loss to the farmer. In like manner, many a farm has fields attached to it on which, during the autumn months, cattle could not be kept, but on which sheep would have ample subsistence and thrive well. There are other uses also to be claimed for running sheep on the farm with cattle; they clear off all the grass left by the heavier stock, and this, as well as by their droppings, produces a close, even

growth for them when they are again put on the pasture. Sheep are also very useful in clearing pastures of many of the weed pests that sometimes infest them; in fact, some of the most pernicious of these are greedily eaten by them when in a young state—the repeated eating down of these weeds ultimately destroys them and thoroughly rids the pastures of their presence. With prices as they now stand, and as they are likely to continue, holders of sheep need not hesitate to use artificial food in their feeding. In using rich food for the feeding of sheep, folding on the poorer pastures, if convenient, ought to be selected, as the enriching power of sheep manure when thus fed is very considerable. It is a fact well-known to sheep farmers that lands worked out and of little value have been permanently benefited by the folding and grazing of sheep on them when fed with oil-cake or other rich foods; and in calculating farming profits the farmer should always take into account the improvement his lands have received, owing to this class of feeding. This is a point which most of our stock-owners seldom take into consideration when casting up their profits, but if looked into it must be seen that it is a matter that should never be lost sight of. There cannot be a doubt that sheep farming, either in breeding, feeding or fattening, is paying and is sure to pay; but by a much more extended and better system of selecting at least well-bred rams, the addition to the sheep profit of this country might be increased by at least one-fourth. —[Ex.]

**Lameness of Horses.**

Shoulder lameness is frequently due to a strain, or to direct violence, and is shown in repose by the hanging of the limb, from disinclination to move the muscles, and during motion, by the dragging and difficulty to bring forward the limb, which is done by a rotary movement. It is also shown by the flinching when the foot is lifted and carried forward and backward. If the elbow is affected, there will be a singular "hanging" of the limb and excessive nodding of the head in motion.

In splint, lameness is usually much increased by exercise. Pressure on the limb shows tenderness, and there is increased heat with more or less swelling. A small splint, in developing, may give much more pain, shown by lameness, than one fully formed. Ring-bone and ossified side cartilages, in their early stages, may be recognized as causes of a peculiar stiffening gait, with the weight thrown upon the heels. The lameness nearly or entirely disappears before the bony deposit appears about the middle or lower pastern. Strains of posterior and other ligaments and tendons of the lower limbs evidence themselves by the local symptoms and alternation in gait. But there are cases of temporary lameness, from very obscure causes, attributable only to sudden strain of some ligament whose exact situation can only be surmised.

The short quick step of the horse with that inflammation of the feet known as chronic laminitis, in which the weight is thrown upon the heels of the fore limbs, is easily recognized. In the less frequent affection, navicular disease, the weight is thrown upon the toes, the gait is short and the lameness, slight at first, is increased by exercise.

Corns are discovered by rapping and pinching the sole at the space between the bars and the quarters in the forefeet. Disease of the frog is self-evident by the peculiar odor. A sand-crack sufficient to produce lameness cannot escape observation. Accidental injury to the feet will generally be known by the history of the case. Lameness in and about the hip-joint is most frequently the result of strain, and is to be recognized by the peculiar want of movement of the hindquarter, and, if of long standing, by the wasting of muscles of the region. —[Prof. Slade in the American Agriculturist.]

**A HEAD OF CABBAGE.**—Many of our readers are now turning their horses on the young grass, causing the animals to "slobber" to a greater or less extent. This is annoying, especially in the driving horse, but the remedy is very simple and easy at hand, consisting of a head of cabbage fed to the horse just before using him for work or driving. It is cheap and effective.

**CURRY THE COWS.**—An occasional currying (daily if possible) will add materially to the appearance of the cows, and is very beneficial in a sanitary point of view. It is not the rule to do so, we well know, judging from the appearance of nine-tenths of the herds we see, yet those who do make a proper application of currycomb and brush in this direction find it pays to do so.

**Feeding Green Corn to Hogs.**

The practice of feeding corn in the milk stage, or after it is glazed, is a common one in the west. The old crop has been fed out, or the hogs and shoats have become tired of the hard, dry corn, and take to the new with such a relish that men have concluded that corn in the milk is just the thing to make cheap pork with. The argument is rather based upon the fact that hogs like new, soft corn better than old, dry, flinty corn, than that a bushel of green corn will make more pounds of pork than will a bushel of old corn. I am not at all convinced that I can make as many pounds of pork with one 100 ears of new as I can with 100 ears of old corn. I say ears because 100 of one should equal 100 of the other, while measuring by weight, the new must be discounted heavily on account of the excess of water it contains.

No one will deny that it will take a greater number of roasting ears than of old corn to make a feed for a hog, cow, or man. It is safe to say that it will take twice as many new ears to make a satisfactory feed. Now if twice as many new ears as old are consumed, we must have twice as many pounds of pork for a like number of ears or acres of corn to get the same amount of money for our crop. It is admitted that hogs tired of old corn will take a new start by a change to new; but that only proves an agreeable change. If the hogs had been so handled as not to become weary of the old feed, no such violent change of feed would have been necessary.

Taking a lesson from my own experience, I would say I have concluded that feeding roasting ears to pigs intended to ship for breeders, or to fat hogs intended for market, is wasteful. If one has a hog or sow intended for show, and the quickest growth in shortest time, regardless of cost of feed, is the aim, then of course roasting ears, beefsteak and new milk all may be fed, and prizes enough may possibly be gained to pay for the outlay. —[Ohio Farmer.]

**PINK EYE IN HORSES.**—An authority says: "Really, attention and good nursing are more essential than medicines in ordinary cases of this ailment. Bleeding and physicking are dangerous, and all depletive or reducing measures should be avoided. The horses should be kept in dry and well ventilated stalls, or box-stalls, and ventilation and cleanliness should be attended to. The body should be lightly blanketed, and the legs hand rubbed and bandaged with flannel strips or hay bands. Exposure to drafts of air should be avoided. The food should consist of sweet, aromatic hay, or newly cut grass, and occasional rations of soft, warm feed or mashes in small quantities. If there is any difficulty in swallowing, a mild, stimulating liniment, such as hartshorn liniment, should be applied to the throat. Setons, rowels and blisters should be avoided. The drink should consist of cold flaxseed tea. When much debility prevails, with reduced or no appetite, and local swellings, give twice daily a drachm of carbonate of iron and two drachms of gentian root mixed with a little molasses and applied upon the root of the tongue. Disinfectants should be used, but not under the nose of the horse. Chloride of lime, dissolved in twenty parts of cold water, should be sprinkled behind the horse; or carbolic acid, same dilution.

We extract the following from a lecture by Professor Scott, of the Royal Agricultural College, England:

Within the last few years a great deal has been added to our knowledge of many of the contagious diseases from which farm animals have suffered so much in the past. A strong opinion is growing up amongst scientific men that all these communicable diseases have a similar origin. It has been proved that the contagion of disease consists, not of gas or vapor, but of solid particles—minute animal and vegetable organisms—sometimes floating in gas, in the air we breathe, or in the water we drink; and that, like organic seeds in the soil, they multiply themselves in suitable media, after a certain period of incubation. Each particular disease requires its special germ or seed for its production. We never find the virus of one disease producing a disease of another kind; in fact, diseases "breed true"—like producing like—just as much as we find to be the case with our farm animals and plants themselves. All the conditions for propagating a disease may be present; but there will be no disease unless the germs are planted. When that takes place, however, the disease spreads like wildfire.



## Poultry.

We received a visit from a well known eastern breeder and exhibitor of poultry, and, having made up a party of chicken men, we went on a tour of inspection of some of the yards belonging to the most celebrated men in that particular class, and, of course, as with others who ride a hobby, the talk was nearly all chicken. We were much pleased with the majority of the places visited. The first yard we called at we found that the fancier gave his attention to one particular breed; the birds were allowed the free run of the place, and certainly look well, and seemed to be thoroughly healthy, the young birds were strong and very forward. The next place we visited we found that just a few birds of many varieties were kept. These poor things were kept confined in pens from which the sunshine was most rigidly excluded; they looked the reverse of happy; these birds are intended for exhibition at our fairs, and in the opinion of the fancy, are likely to be winners of many prizes. They lacked the healthy, vigorous and natural appearance of the birds that we saw at the yard first inspected. We observed a great number of medicine bottles near the different pens; this does not speak very well for the system pursued of keeping the birds in solitary confinement. We maintain that the money devoted for prizes is intended to improve the different varieties, and should not be given to birds of this description. We were informed by our companions that these birds will be plucked, doctored and painted, and got up in a superior manner for exhibition at our fairs; feathers pulled out were not of the proper marking, or taking away from the true shape of the bird; other feathers painted; combs, wattles and lobes also painted and doctored to the correct shape; in fact there were so many processes through which the poor things had to go, that we became quite bewildered, and that old expression came to our mind that "there is roguery in all trades but ours." Now, how does the giving of prizes to birds of this description tend to the improvement of poultry, and what chance has the really honest farmer or breeder with this sort of exhibitor? His birds will be advertised as winners of so many prizes, and will be eagerly purchased by those desirous of possessing really good birds, and when the purchaser gets either them or their eggs he is disappointed and disgusted, and will probably either give up keeping poultry or go in for another variety. What is wanted is that each exhibitor that takes a prize can prove to the judges that he has in his possession a number (say 10 or 12) of healthy fowls of that particular variety, and do away with prizes for single birds. We saw many yards of poultry and noticed that where only one or two varieties were kept the birds looked the best.

As the warm weather advances so increases the tendency of the fowls to breed vermin in their laying nests. It is only through repeated care for these little "hot beds" that the constant, revisiting hens can be kept free from lice in warm weather, and their places for egg deposit rendered comfortable to them. Distribute powdered sulphur judiciously around the laying nests, and see to it that the perches are occasionally smeared in the day time with kerosene wash. Thus you may keep this trying hot weather pest at a distance effectually.

As a guide to those contemplating the keeping of poultry, it should be noticed that fowls that lay white eggs are more subject to roup than others. The reason is that those that lay dark eggs, such as Brahmas, Cochins, etc., are more heavily feathered and protected against cold and dampness. Roup is caused by dampness and draughts in the fowl house.

It is not economical to sell the laying hens that cease laying early in order to fulfil nature's requirement of moulting. The hens that moult early finish before the approach of winter, and the system is recuperated in time to begin laying when eggs are high. Good judges of fowls feed the moulting hens with more care during the period of feathering than at any other time, as the process is very trying to fowls. Early-hatched pullets and early-moulting hens give us eggs in winter, while those that moult late do not lay till spring is well in.

## The Farm.

## Comparative Feeding Value of Timothy Hay, Wheat Bran, and Oat and Barley Straw.

BY PROFESSOR JAMES LAW, CORNELL UNIVERSITY.

A correspondent enquires: "What is the comparative value of oat and barley straw for wintering cattle? How much bran should be used with a ton of either oat or barley straw to make it equivalent to the same quantity of timothy hay for cattle?"

To furnish a basis for a reasonable estimate, we give below an analysis of each of the aliments named:

	Water.	Salts.	Woody Fibre.	Starch Sugar and other heat formers.	Fatty Matters.	Albumen, Legumine and Caseine.	
Oat Straw...	21.0	3.6	30.0	38.4	5.1	1.9	Boussingault.
Barley Straw 14.2	4.4	34.4	43.8	1.7	1.9		
Timothy Hay 14.3	4.5	22.7	45.8	3.3	0.7	1.9	Wolff.
Wheat Bran 13.1	7.3	55.6		4.7	19.3		Johnson.

By the above analysis of Boussingault, oat and barley straw are nearly exact equivalents of each other, the greatest difference being in the amount of fatty matter, of which there is two and a-half times as much in the oat straw as in the barley. But what is lacking in fat in the barley straw is virtually made up in the extra amount of starch and allied constituents, which in the body fulfil the same use with fat in generating animal heat, or storing up materials which can be used later in the production of heat. As far as their chemical analysis is concerned, therefore, barley and oat straw may be held as nutritive equivalents.

In regard to timothy hay it may be assumed that the hydro-carbons, starch, fat, &c., are sufficient to the demands of the system, so that our relative estimate must be based mainly on the amount of the contained albuminoid or flesh-forming constituents. These, according to the above analysis, are present in timothy hay to the extent of five times the amount presented by oat or barley straw. But in wheat bran, according to Johnson, there is ten times the amount of albumen, casein, and legumine that is found in the oat or barley straw. The question, then, so far as chemical analysis is concerned, becomes a simple sum in arithmetic:

Two thousand lbs. oat straw contains 38 lbs. of flesh-formers, and 2,000 lbs. timothy hay contains 194.4 lbs. of flesh-formers. The balance, 156.4 lbs., is to be made up in wheat bran. This latter ailment contains in every 100 lbs., 19.3 lbs. of the food desired; therefore, 800 lbs. of wheat bran added to each ton of oat straw, should supply the deficiency of the latter in the food products that build up the system.

Such would be the deductions drawn from a simple chemical estimate of the different foods. But such conclusions cannot be accepted as final. Oat and barley straw and timothy hay are not constant in composition. If the grain is cut early, while still partially green, and before the seed has been fully matured, it will contain much more of the nutritive elements than if fully ripened before cutting. On the other hand, if timothy is allowed to ripen before cutting, then the stalk will part with much of its nutritive material for the benefit of the seed. Thus certain specimens of straw may approximate to hay in quality, and certain specimens of hay may be deteriorated to near the quality of straw.

Again, the mere amount of starchy or albuminoid constituent in the aliment, does not indicate that that amount is readily assimilable. What is most finely divided and most easily soluble, is most

readily digested and most easily assimilated to build up the body. This cannot be shown by a laboratory analysis, but will show itself in manifest results when subjected to the more delicate analysis of the digestion and assimilation.

Again, a little difference in the relative proportions of the different constituents will often make a material change in the result. A food element which does not itself go to build up the tissues, may still beneficially affect the cell organisms which preside over digestion, blood-making and nutrition, so as to render these processes more rapid and complete, and in this way the inevitable waste of food taken into the system is reduced, and an aliment with fewer nutritive ingredients may actually show a higher nutritive value. In this way the slight excess of fatty matter in the oat straw probably accounts for its greater acceptability as an aliment than barley straw, and in this way the aromatic and appetizing principles in hay, and above all, in natural hay, make it more valuable than other foods having a nearly similar chemical composition.

## Fall Wheat.

Ontario, on the whole, has above an average crop. Especially bordering on Lake Erie there is promise of an abundant crop of fall wheat. Throughout the counties of Essex, Kent, Elgin, farmers expect a larger return for their labor than they have had for some years. The alternate rains and sunshine have changed for the crops in that section. In the districts that lie nigh to the lakes the promise is equally good; Huron and Bruce are especially noted as grain bearing counties. In Simcoe and Grey prospects are now very good, though early in the season farmers were very anxious about the unfavorable appearance of the fall crop.

In Middlesex, Oxford and the other inland counties, the wheat crop is little more than an average. A crop lower than an average on some low, undrained land, reduces the average yield. The counties of Ontario, Northumberland, and parts of Prince Edward, Lennox and Peel, give promise of abundant crops. The other counties bordering on lake Ontario are quite below an average. The fall wheat had not the usual snow covering, and there was considerable heaving by frost. The spring wheat in that district is a heavy crop.

Spring wheat has ceased to be an agricultural crop in many parts of the country.

The reports of the oat crop are, on the whole, encouraging. In some places the stems are too luxuriant, in others they are short, but permit a good yield.

Barley will not be much above an average, though the weather has now for weeks been most favorable; it is not expected to do more than recover from the check from cold weather in May.

Peas, where sown, look well, but have suffered from the bug.

Potatoes give promise of a very good crop, though the bugs are as numerous and voracious as ever.

Clover was greatly injured by being heaved by the frost. In some places it was quite killed. What survived looks well. Hay will be at least an average.

## QUEBEC.

From reports of the crops in the Province of Quebec, though agriculture is not of so high an order as in Ontario, the improvement there is great and continuous.

The weather in the Provinces of Nova Scotia and New Brunswick has lately been all that could be desired by the farmers, and the crops are rapidly maturing under the united influence of heat and moisture.

We have also favorable reports from P. E. I., the garden island of the gulf. The crops give at least high promise.

## MANITOBA AND THE NORTH-WEST.

The crops are doing finely, and from the latest advices there is every prospect of a good harvest, notwithstanding the backward state of the spring.

It is a singular fact, though not generally known, that the juice of the seed stock of the common parsnip is so poisonous as to raise water blisters between the fingers and on the arms of those who cut off the seed tops.



### The Weeding of Pasture Lands.

Very recently we pointed to the desirability and great importance of drainage to pasture lands, where such was requisite, and we wish now to draw attention to another most important point in the further management of such land. It has been often laid down that "all weeds are robbers," and we doubt not that if our farmers kept this truth always present to their minds we would have less lands with noxious weeds than we see at present. We see pasture lands freely committed to grow abundance of nettles, docks, thistles, and other like injurious weeds. And this is often allowed to go on for years without any effort being made to eradicate them, notwithstanding that the evidence is there of the injury they are causing to the land they are growing on, as well as to the lands by which they are surrounded. In this latter point injury is often inflicted on neighbors by the dissemination of seeds from weedy lands. Such a system is not creditable, and should not be tolerated for a season. The ready, but ineffectual mode of "running" over and cutting down weeds with a scythe, may in some cases prevent the seeds from being perfected; but as a work of true permanent value, cutting is no remedy. So far from being in many cases a remedy, it is made a means of inflicting further injury to the land, as the cut stems being left lying on the ground, seeds are thus perfected; if the weather is favorable, germination soon takes place, so that instead of eradicating or even mitigating the evil, it is effectually perpetuated. The sure way, therefore, to rid pastures of perennial weeds, is to either pull or dig them up. If advantage is taken of wet weather this may be more easily accomplished. In pastures where rushes or sedges abound, the only remedy is drainage. Moss, too, is the cause of much annoyance and loss in pastures, but it can be easily destroyed by a good application of lime or a mixture of lime and soot. Nitrate of soda, too, is a good agent to use for its eradication, as are also most nitrogenous manures, such as sulphate of ammonia, and, wherever it can be had, gas water or lime is good for the purpose. At this season of the year, therefore, before the formation of seeds is completed, the farmer should redouble his exertions, and have all pasture weeds taken up and carted away immediately off the land, either to burn or rot them with the aid of quicklime—the latter process we advocate as being a means of considerably adding to the manure heap. In all cases the greatest care ought to be taken that no seeds of weeds, either annual or perennial, should be permitted to reach the manure heap, although we know great slovenliness is practiced in this respect—tailings of corn, the greater part being often composed of weed seeds, are often thrown on the manure heap to let the fowls pick out the corn. This sort of thoughtless proceeding still further adds to the farmer's difficulties, and entails much loss of which we have no doubt he has but a very shadowy idea. The weeds in pastures should receive no quarter whatever, and even though the battle be persistent and well timed on the part of the farmer, victory may not always be his. While the farmer sleeps the weeds grow; let him, therefore, betimes call his forces into action to clear out the idlers that not only do not add to his profits, but deprive him of much that he is entitled to.—[Irish Farmer.]

### Diseases of Crops.

The various forms of clover sickness are two well known immediately over our border. That form that now seems apt to be most baneful to farmers has, it is said, spread even north of the dividing line, and has been met with in the section of Canada contiguous to the State of New York, where it has entailed a great loss on farmers.

Prof. Scott, of the Royal Agricultural College, England, says:

"As regards crop diseases, the light which science has recently thrown around some of them has so far proved of little value in enabling us to avert or exterminate them. In the case of potato disease (*peronospora infestans*), for example, by planting different varieties of potato, they will better withstand the disease for some years; but there is no such thing as a really disease-proof potato; as some one has aptly put it, as well expect a death-proof man.

There are many forms of "clover sickness," and probably as many different causes. One form of clover disease is due to a fungus, and I am of opinion that 'clover fungus' is far more common than is generally supposed. I have inspected different cases of clover sickness during this spring,

which were clearly due to this cause. As far as I am yet able to make out, it is the same fungus that was found on clover in France in 1874; and although that was believed to be a *peronospora*, I am not aware that it has been referred to its proper genus yet. Some German observers hold that clover sickness is due to parasites in the soil; but to the best of my knowledge they have adduced no positive evidence of this. As, however, 'beet sickness' has in one instance been clearly traced to parasites in the soil, it is quite within the range of possibility that one form of clover sickness may arise from a similar cause. Our knowledge on all the points affecting this question is still far from complete; but, as Sir J. B. Lawes remarks, it is an immense step and advance to know that where the soil is sufficiently rich, clover disease—perhaps it would be more correct to say clover failure—does not appear to exist. It had not appeared on the Rothamsted garden soil, although sixty crops have been taken in succession. In regard to 'club-root,' 'anbury,' or 'finger-and-toe' in turnips, our knowledge is now, thanks to Mr. Woronir, more definite. He has shown that the cause of the disease is a parasitic vegetable which feeds on the starch granules of the roots, and as it empties the cells of their starchy contents, fills them up with a mass of spore-like bodies, which, by further contaminating the cellular tissue, ultimately produce the club-root. The fungus belongs to an order which is generally held to live upon decaying vegetable material. But some botanists assert that this one will only live on the healthy tissue of cruciferous plants. Good cultivation, a complete change of cropping, and the careful destruction of charlock and other weeds of the cruciferous order, will do much to eradicate the pest."

### Good and Bad Pastures.

Professor Buckman recently delivered an address on the subject of pastures. He said that as a rule people did not get a clear idea of what pasture was. If he were to ask anyone present, he had no doubt they would be able to tell him there was a difference between natural and artificial pasture, and would no doubt point to meadow land as natural pasture. When they spoke of natural pasture, what did they mean? Some of these pastures they would find represented by high-backed ridges in their fields, showing that these places were once under the plow and in course of time had passed from arable to pasture and from pasture to arable. Too often, in speaking of pasture, they spoke of that which had been left to be choked with weeds, furze bushes, or was water-logged, and where, in point of fact, real pasture did not exist at all. If they wished to have pasture they must cultivate it as much as they could; for it was because it had not been cultivated that the pasturage of the land had gone back. The great evil had been to get as much hay or feed as many head of stock off the land as possible. But was it not a fact that large sums of money were expended on artificial manures to improve their grain crops, and none on pastures? The land was impoverished by the continual drain upon it. Instead of good pasturage, and such as tended to the nutrition of the stock, rank grass, rushes, and such things as cattle would not eat increased and multiplied.

There were generally from 30 to 40 kinds of grass in a field, besides those which were called artificial grasses—such as clover and sainfoin. The grass plant had a stem which was perfectly hollow, cylindrical, and divided into different spaces by nodes, to give additional strength to the plant. The lecturer called attention to the fact that though farmers generally only knew the difference between good pasture and bad pasture, by one being sweet and readily eaten by cattle and the other sour and rejected, the botanist knew the properties of both kinds. If, on passing a blade of grass through the hand it was thorny and spiky, and there was a danger of cutting the hand with it, it was bad grass, and such as cattle would reject. There were two sets of grasses in every field. He had studied this subject with great care and attention; walked miles through grass fields in various parts of the country, and sometimes had been pretty well bullied by farmers for going into their mowing grass to find out various kinds of grasses, and he had ever found there were those two sets of grasses—the good and bad. It was, however, the same with grasses as with society. There was a good state and a bad one, and in course of time, without cultivation and education, the bad would infect the good, and nearly the whole become bad; and, on the other hand, by education and moral influences it was hoped the bad would be eradicated. By

bad treatment, the withholding of necessary manures, over feeding, and wanting to take too much from the land, the good grasses died out, and their place was taken by worthless sorts—only weeds. When, therefore, they considered that in every field these two kinds were found, it must be apparent to all that it was most important to encourage the growth of one and check that of the other.

If they let a pasture down for three or four years they would find that the bad grasses would increase so as to cover nearly the whole field. This was the difference between good and bad pasturage. It was the same with it as with other things. If a farmer found his grass was mostly sweet he came to the conclusion that it was good pasturage. All the various kinds of good and bad might be present, but it was only the botanist who could tell which were good and which were bad. In a field they had to deal with subjects diverse in their nature; but the good or bad condition of grasses was regulated by their treatment. They might go into a meadow and find one part was good and another very inferior; and on searching for the cause would probably ascertain that it was water-logged at the base. This would go on till the whole field got water-logged, and the good grasses were utterly spoiled. Or they might go into another field and find that too much had been taken for the rick and not enough put on the land as a return, or that too many sheep had been folded upon it. They had, through competition, been obliged to poach too much on the pasture to help the arable, but it would not do to do so any longer, as the pastures must be attended to. Nature seemed to have ordained that there should be restitution, and now that people were going back to pasture it would be as well to remember that the high-backed ridges in the fields proved that they had been transformed from pasture to arable and from arable to pasture. He need hardly say that if anyone were going into a farm which had been neglected, it would be years before such a farm would be brought into good condition; but if they paid attention to their pasture they would improve it. As a practical farmer, speaking to those who were farmers, he knew that in what he had stated there was the cost to be taken into consideration; but that did not affect his botanical inquiry, which was for the good of all.

**PRESERVING FENCE POSTS.**—An exchange says: Take boiled linseed oil and stir, in pulverized charcoal, to the consistency of paint. Put a coat of this over the timber, and there is not a man who will live long enough to see it rotten. I discovered many years ago that wood could be made to last longer than iron in the ground, but thought the process so simple and inexpensive that it was not worth while making any stir about it. I have taken out basswood posts, after having been set seven years, that were as sound when taken up as when first put into the ground. Time and weather seemed to have no effect on them. The posts can be prepared for less than 2 cents a-piece. They should be well seasoned before the oil and charcoal are applied.

A correspondent of the *Germantown Telegraph* says that the main failure in raising strawberries is in setting poor plants. Old plants are good for nothing; new plants from an old bed are not worth setting. We should set plants that are grown from those that have never fruited. When a plant produces a crop of fruit that fruit exhausts the energies of the plant to a certain extent, and its young plants will not have the constitution and vigor of those from plants that give all their energies to the young plants.

There is a large double-flowering cherry which bears no fruit. This species is much prized for the beauty of its blossoms. These blossoms are about one inch and a half in diameter. They closely resemble a cluster of the loveliest of white roses. They bloom in magnificent profusion. Whoever once introduces one of these double-flowering cherry trees in his garden will never be content afterwards to part with it.

The easiest way to increase roses is by layering. When the flowering season is over, a branch may be half cut through in a sloping direction, and the cut portion laid and pegged down and covered with soil, or it may be pressed down into a pot, and when it is rooted the layer is severed from the original plant. In this way a plant may furnish half a dozen layers in one season, and so on for a few years, and the third year the original dozen may be increased more than a hundred times.





**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. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open and postage will be only 1c. per ounce. We do not hold ourselves responsible for the views of correspondents.

**SPECIAL NOTICE.**—We receive numerous communications to which no names are attached, and asking for very lengthy and full information without enclosing stamps for reply. We require that the name of the subscriber should be signed, not necessarily for publication, but as a guarantee of good faith. Letters sent without conforming to the above, find their way into the waste paper basket.

#### MANITOBA.

SIR,—I have read the interesting letter upon Manitoba in your July number, and, as I have just returned from the Northwest, would like to give you my experience of the country. This visit just made is not the first, nor do I mean it to be the last. Your correspondent is in error about there being no fish in the lakes; they simply abound with fish; he must have meant the ponds. Where the land is at all high the land is good; there is very little alkaline land, and this, in my opinion, can be easily cultivated. There are plenty of scrub lands, which I found to be invariably the best land. The scrub can easily be cleared off with very little trouble. The majority of immigrants expect and want to find land clean and ready for cultivation. The country between Winnipeg and Emerson lies low and liable to be flooded, consequently, not suitable for settlement. I cannot agree with R. A. about it never being a stock country; my brother-in-law put up lean cattle and cows last fall and fed them on nothing but prairie hay, and they came out fat in spring; this fact satisfies me that, with suitable buildings, cattle can be raised and fattened as well, if not better, than in Ontario. Buildings for cattle must be made tight, not even a crack or nail hole left open, else the fine, dry snow will soon blow in and speedily fill the building. I wish R. A. could have stayed and seen the country at its best; he viewed it at its worst. What he states of the exorbitant charges of teamsters is very true; they will frequently demand 50 cents for the privilege of being allowed to sleep under a door placed against the side of the wagon; many of the settlers are just as bad, especially among the half-breeds and Scotch; they think nothing of charging 50 cents a night for allowing you to sleep just inside the tent door. Owing to the dry spring we shall not have such long straw, but the yield of wheat will be very large. Many people that I know went there with very little money, and are now wealthy entirely through farming, and I consider it the proper place for an energetic man to go to, even if he has only sufficient to keep him alive till he gets a crop; his good time then commences, and he is soon repaid for his trouble and hardship. Good houses are rapidly going up, lumber is getting cheap, the railway is bringing it and other supplies in very quickly. I saw 70 cars of lumber being unloaded at one time at Portage, and the lumber yards are well stocked. Boomtown jogs along merrily; it always appears at the terminus of the railway, where the town is located; building lots sold at fancy prices, and for a day or two the place is a bustling, busy place, but another advance of the construction party, and the lively scenes are transferred to another locality, and poor dupes lose their money, but, although you hear of plenty of cases, very few will admit that they have been bitten. A deal of whiskey is sold at these places. The purveyor to the railway men says he has a permit to sell whiskey, although in the territory it is against the law, this I could not understand. There are about 40 whiskey sellers in Brandon; the boom is over in that place. Sales of stock, implements, etc., are lively, frequently 3 or 4 auctioneers at work at once, and well attended, but prices have fallen; a yoke of oxen will not bring as much by \$100 as formerly; other things in proportion. Plows selling for \$10. I cannot agree with R. A. about implements not

being affected by the weather; the heavy dews will rust as badly as rain will, and plows, etc., last but a short time if not kept under cover. I found the water excellent, and easily found by digging from 60 feet deep at Winnipeg to only 12 feet at Portage, and the opposite in effects to that stated by R. A.; in fact it is considered to be rather relaxing. I certainly must prefer a quarter section in a good locality to 100 acres in most parts of Ontario. The people are very honest; store-keepers at Brandon leave their goods out all night and they are not stolen; there are no police, and as the immigrants are mostly of the better class, they are quiet and well behaved. The railway is fairly well constructed, the accommodation excellent, good speed, and officials as courteous, and as few accidents happen, as in any part of the Dominion; the fares are only at the rate of 3 cents per mile. The trails or roads now travelled upon are very good, the old ones described by R. A. being mostly abandoned.

I. H. B. Carville, Ont.

SIR,—With your permission I will notice points in a letter signed R. A., Warwick P. O., page 182, July. I spent the most of the month of August last in Manitoba. R. A. says it will not be a stock raising country. I saw as fine grade 3-year-old steers on Rupert Monroe's farm near the Portage as you could wish, worth from \$60 to \$70 a head in our market; Monroe said they wintered out at the hay-stacks. My sons at Pembina, 75 miles from Emerson, went out in February with horses and cows; they say cattle do well on prairie hay; if well saved would prefer tame hay for horses. R. A. says the land or soil for 40 miles around the Portage is good but light; if it is light it cannot be good. I went in the fields when harvesting was going on, and never saw as good spring wheat in Huron county; estimated yield from 20 to 40 bushels per acre, the average between the two, oats and barley being very heavy crops. R. A. says he would prefer 100 acres in Ontario to 300 in Manitoba. My sons have 320 acres in township 1, range 9, west, that will produce, when plowed, twice as much grain as any block of the same number of acres that I know. R. A. says machinery can remain out of doors for years without taking as much harm as it would do if out only for a few days in Ontario. I heard much complaint that machinery and implements from exposure soon played out, in fact rotted and rusted out in a few years. The last point that I wish noticed in this interesting letter, though mis-leading in some points, is: R. A. says a man cannot undergo nearly as much work as in Ontario, without being fatigued, or run any distance without being "pumped out." When I was there last August I walked and ran short distances to catch up with my party, and could do it easier than in Ontario, and that was the verdict of all I spoke to on the subject. I have seen sixty-seven winters.

R. B., Brucefield.

[We like to hear both sides of a question, and have subjects thoroughly ventilated. We would like to hear from a few more practical farmers who have paid a visit to the Northwest, as their opinion would be more instructive and of greater value to intending immigrants than the majority of the pamphlets published by interested parties.]

#### FLIES.

SIR,—The flies are very troublesome, especially to horses. Can you give any plan for preventing them bothering the poor things so.

READER, Selkirk, Man.

[Keep the bodies of the horses covered with some light material, such as thin factory cotton, and rub the exposed points with some strong smelling fish-oil. The stables should be fitted with gauze doors; the flies can be driven out by burning dry, rotten cow dung in some old iron vessel, and then close the doors.]

SIR,—What is the best way to apply unleached ashes to a somewhat exhausted clay soil, summer fallowed, so as to reap the benefit from it the first two or three years? Would you harrow it in, drill it in with the wheat, or top dress the wheat after it is up, and in what quantities? The ashes are not first-class.

N. T., St. Catharines.

[If you have a large quantity of ashes and apply them liberally, we would advise harrowing them in, but if only a small quantity is put on the land, top dressing would be better.]

SIR,—1st—What causes wire-worms at the roots of plants in pots, and what can be done to prevent or destroy them? 2nd—Why do the leaves of plants (such as the Heliotrope) grow black and shrivelled on edges.

ENQUIRER, Falkirk.

[1st—Mustard water is recommended for the purpose of destroying worms in flower-pots. A weak solution will kill the worms and not injure the plants. 2nd—Neglect to water frequently causes Heliotrope to shrivel; immerse your flower-pots in water for an hour or so to thoroughly moisten the earth, then keep watered at least twice a day; some varieties require more water than others.]

SIR,—Two years ago I sowed about an acre of my orchard in orchard-grass. Last year I commenced to feed it to my cattle on the 24th of May. This spring being cold and backward, it was not so far forward; I commenced feeding it to the cattle and horses on the 6th of June, and on the 21st I cut the rest of it for hay; at that date some of it was 4 feet long. I never saw anything grow so fast as the second crop; there is some of it 18 inches long; neither the frost or the drouth injure it in the least. There has been a great number of apple trees killed in this neighborhood last winter; I lost a few very fine trees. I noticed in the spring that they were dead from the ground to the first limbs, and the bark would peel off. I noticed that the bark was full of little holes. I have often seen a small, grey bird picking on the trees. What is the cause of those trees dying, or can we do anything with them to save them in the future?

A. S., Tara, Ont.

[Apple trees should be grown with lower heads to protect the trunks from the sun; the trunks of young trees should be covered and the roots mulched. After they have been planted 5 or 6 years, seed down with grass; this will protect the roots. There are few winters now in which the ground does not thaw, and more or less injure the trees unless mulched. Apple trees suffer more from borer than any other pest. One part carbolic acid to fifty parts water, applied with a whitewash brush to the trunks and larger branches, about 3 weeks before and again 7 weeks after blossom appears, is usually enough to repel the beetles so that no eggs will be laid. The trees should be occasionally looked over during summer, and if the borer has got into the trees it can easily be known by the appearance of the small holes; there is generally some sawdust about the hole. The only remedy is to use a piece of strong wire and endeavor to poke them out, for if left they will be sure to destroy the tree.]

SIR,—Do you think it advisable to top dress clover with plaster after spring crops are taken off? Some farmers think of trying this plan to give clover a fresh start after the other crops are removed, as last year clover did not do well when it was exposed to the heat of the sun. I don't know whether the effect would be good or not, but as our land is light there seems to be reason in it. The clover crop is light this year, and if we could hit on a plan to get over the heaving by making the roots strike deeper we might keep it in some places of this kind.

J. G., Brantford.

[By adopting the plan you suggest it will certainly benefit the clover and prevent a deal of heaving.]

SIR,—Please answer through your next paper if I can forbid money being paid to a man that is running a business for another person if it should be borrowed money; the claim being wages due for work?

J. A. P., Leadbury P. O., Ont.

[Not knowing the circumstances we cannot advise you. Better employ a lawyer.]

SIR,—We have had a very hard time to get in crops this spring, so cold and wet. I could not put in near all the crops I did intend to. Many are just putting in buckwheat. It has now been very hot for a few days and crops are growing very fast. Many thanks for the scions. I received them in good order, and many of them are growing nicely, although this is a very hard season on newly set grafts. I set a great many, but few are now living. All started nicely at first, then we had a very cold spell and they mostly died. Last winter was the hardest on fruit trees I ever knew, and many have died all through the country. We are still well pleased with the *Advocate*, and I try to get the farmers interested in it.

A. M. R., Dumplins P. O., York, N. B.



SIR,—On page 183, July No. of the FARMER'S ADVOCATE, A. F. asks, will it pay to paint a shingle roof? Painting at the ends of the shingles hinders the free escape of the water, and the dry shingles under the lap absorb and hold the moisture; rotting of that part of the shingle follows. My way—Paint each course as they are laid under the lap, say 4 inches, finish the whole; when laid your roof will last.

CARPENTER, Brucefield.

SIR,—Would you advise me to take up farming? I am at present a short-hand writer in a law office, but have always had a great taste for farming and take great pride in my garden, which I cultivate well. I am very anxious to make an independent home for my mother, who is in the Old Country, but would come out here if I had this to offer her. I am not afraid of hard or rough work, and understand quite a bit of the theory of agriculture. My idea was to take up a free grant in the North-West, as I am afraid all I could scrape together at the end of say three years from now would be about \$500, and a \$2,000 or \$3,000 farm here would be out of the question. Your practical advice in the earliest following number of your paper would much oblige. I am 26 years old and married about 16 months to a farmer's daughter, and have one child.

N. M. W., Toronto.

[We cannot take the responsibility of advising you. Before giving up your present employment consider well the hardship a settler with small capital has to go through before he can make himself a good farm. Read carefully the opinion of our correspondents respecting the North-West, then decide for yourself.]

SIR,—I have often thought I would write you a few lines, but have not had time or neglected it, I suppose. The author of "Farming for Boys" has some good ideas, but when he speaks of pigeons doing so much good and very little harm he knows nothing whereof he affirms; if it was no more than their being on the roofs of buildings, wearing them out walking over them constantly and rotting them by their droppings, that would be sufficient to condemn them, for a roof will last three years longer without them; but they destroy an immense quantity of grain besides. His theory of king birds eating only drone bees is also a complete fraud. I speak from knowledge, as I have shot king birds before now which had scores of bee stings in their crops. His talk about crows is also absurd, although I am not an enemy of crows. I might also refer to the mistake made by the ADVOCATE and other journals of the day with respect to the apple crop. Taking it as a whole there will not be half a crop. Canada Reds, Vanderveres, Newton Pippins, Northern Spy and all kinds of early apples are almost a failure; R. T. Greenings about half a crop; Baldwins and Snow apples are the only kinds that are up to the average. Peaches also are not the abundant crop some people imagine they are. In fact they are a partial failure in most places. Other fruit is about an average.

FARMER, Rondeau, Ont.

#### THE TORONTO GRAB GAME.

SIR,—I was much pleased to read in your valuable paper for June the well directed criticism against the Toronto grab game, and I am certain the ADVOCATE deserves the continued gratitude and support of the farmers of this country for the fearless advocacy of their rights. Your well-conceived illustration just puts the whole thing in a nutshell. The Toronto ring, with vulture-like rapacity, has grabbed the property that belonged to the farmers of this country; and this is not the worst, for a number of the representatives of these farmers quietly looked on and allowed the spoliation to go on. Farmers on this account should be very wary whom they entrust with the management of their affairs, and not put men into office who would connive at seeing them robbed. Had it not been for the ADVOCATE unearthing this piece of jobbery half the farmers in the country would have known nothing about it, or how their affairs were managed. There is altogether too much apathy amongst our farmers in this respect, and they do not keep a sharp enough eye on those who do their business. It is to be hoped, however, that the exposure of this Toronto game will be a salutary lesson to them in the future. It only requires a little penetration to see that the whole scheme was subversive of the interests of farmers. It was got up, in fact, to abstract money from their pockets in order to enrich a few business men in Toronto. They thought by centralizing the fair there, and

obtaining the \$10,000 Government grant, that the people from Ottawa to Sandwich would take a yearly pilgrimage to Toronto to see the big show, and spend a lot of money with their merchants, and the advancement of agriculture never entered their minds; they wanted to prostitute our whole system of agricultural exhibitions to serve their own greed and rapacity. I hope my fellow-farmers will have seen through this Toronto speculation, and that they will resent any such attempt to trample on their rights, and that they will take your advice, Mr. Editor, and have nothing to do with this Toronto exhibition, until they have assigned to them all the right, title and claim to the grounds that have now been so unjustly taken from them. Knowing that the ADVOCATE will ever be found fighting for the right, I remain,

ANTI-MONOPOLY, London Township.

#### Veterinary.

SIR,—I have a mare eight years old that had the pink-eye last spring and got over it, but she coughs quite a lot. She has coughed pretty hard for about three weeks now. Along on the outside of her nostrils, towards her foretop, appears colder than common. I gave a tablespoonful of mustard once in a while, and ginger once in a while. She is on pasture, and I drive her, too. She eats well and has pretty good life, but I don't like to hear her cough. She runs at the nose but very little. If you can prescribe a remedy you will greatly oblige a subscriber.

S. S., Delta P. O., Ont.

[Apply tincture of iodine to the throat once every second day with a small brush, rubbing it through the hair to the skin; if it makes the skin sore you will not apply it so often. This you will continue for some time. You will give a powder every day made of nitrate of potash, one dram; pulverized digitalis, half a dram, and tartarized antimony, half a dram. This you will continue as long as the cough lasts.]

SIR,—Can you inform me in your valuable publication what would be the best treatment for high conditioned cows that might probably be subject to milk fever after calving? Mild starvation for a few weeks before is considered a preventative. Can you suggest a less cruel and inconvenient remedy? Also the most prompt treatment for an animal stricken with this fatal disease?

R. B., Brantford.

[Cows that are predisposed to parturient apoplexy should receive before calving a low diet of a laxative nature with occasional use of a few epsom salts, and the udder drawn regularly as soon as the milk appears. Attention should be paid in order to secure good housing, ventilation and sanitary regulations. Medical treatment consists of copious blood-letting when the pulse is full, but if insensibility, blindness and decline of the pulse and temperament has taken place, bleeding will then hasten death. Next, and which would constitute the first step if bleeding cannot be accomplished, a powerful cathartic must be given. The following is suitable for a large cow, three-fourths to be given to an Ayrshire cow, or animals of that size: Epsom salts, 16 to 24 ozs.; calomel, 1 to 2 drams; croton oil, 15 to 30 drops; powdered ginger, 2 ozs.; treacle, 1 to 2 lbs.; warm ale, 2 qts.; mix well. The milk should be drawn frequently, and the animal kept dry and warm. Dry friction to the body extremities and udder is of immense service. Cows that have recovered from this disease should not be allowed again to have calves. It is better to feed them than run the risk of attacks that are sure to end in death at a future time.]

#### Thinning Roots.

American Agriculturist:—One can form but an imperfect estimate of the value of a field of roots by knowing the weight of the largest one grown. Very large roots do not mean very large returns; medium-sized roots and more of them is a more paying crop. Other things remaining the same, the size of the roots depend upon the thinning. At this season of the year, when the roots are growing vigorously, they should be thinned so that they shall have a space between them in the rows equal to their own diameter, and no more. It is better for the roots to be ten than fourteen inches apart in the rows. If the thinning be carried beyond this, they grow large and coarse, and will be much less valuable as food than the smaller ones.

#### Farming for Boys.

BY THE AUTHOR OF TEN ACRES ENOUGH.

##### CHAPTER VI.

*Building a Pig-Pen—How to keep Pigs.—A Great Increase.—Two Acres of Corn.—Liquid Manure the Life of a Plant.*

This important part of the general future being thus successfully under way, the next thing was to fit up a pig-pen, for the new queen in the boys' affections would very soon be brought home. As there was a scarcity of materials on the farms for constructing a fashionable modern pen, with brick walls, shingle roof, plank floor, and costly iron feeding-trough, Uncle Benny directed them to use a large old molasses-hogshead, that happened to be lying idle. One of the boys got into it and removed all the projecting nails from the inside, then placing it on its side, and blocking it so that it could not roll over, they put into it an abundant supply of straw for a bed. They then built a fence of old posts, broken rails, pieces of boards, sticks from the wood-pile, and any other waste stuff they could find. In fact, there was nothing else to be had. It was a tottering, decrepit sort of affair, although strong enough to keep the pig in, but it enclosed sufficient room to give her a fine range, while the great hogshead would be sure to afford a retreat always dry and warm—in fact, just such a shelter as a pig must have, if one expects him to keep himself clean and in thriving condition.

Though Uncle Benny had himself superintended the erection of a structure which was destined to be the theatre for very important events, yet, when finished, he gazed upon it with a sort of architectural dismay. He had a nice eye for the beautiful; but here was a collection of all the crippled boards and half rotted posts and rails that such a farm as Spangler's generally contains in wasteful abundance. "It must be whitewashed," he exclaimed. "I am ashamed of it. Your pig will be ashamed of it too, and the neighbors will laugh at it. The hogshead will do, but the fence must be whitewashed."

Mr. Spangler, coming up at that moment, and hearing the old man's remark, joined in by saying, "Yes! It beats me all hollow! There's no worm-fence on the farm like it."

The uneducated eye of the boys being unable to appreciate the squalid features of the structure, they were surprised at these disparaging estimates of the result of their labor, but, on promising that they would supply the whitewash as soon as the weather became warmer, the subject was dropped.

In due time the expected and long-desired pig was brought to her future home, and she went cheerfully into it, giving no critical attention to the fence, but making directly for the feeding-trough, which had been crammed, with boyish generosity, as evidence of a hearty welcome. She was a sleek, demure, and very motherly looking pig, and her white skin was so much cleaner than any of the dirty razor-backed animals in Spangler's pen that everybody remarked it. Mrs. Spangler herself, with all the girls, could not resist the temptation of coming over to see what they heard described at every meal since Christmas. Even they observed the difference; but one of them, whose name was Nancy, rather spitefully remarked that it wouldn't last; she'd soon be as dirty-looking as the others. This so nettled Joe, that he said the pig should be called after her; the boys falling in with the idea, they formally adopted the name. Even Uncle Benny always used it when speaking of her.

The advent of this animal created even more interest among the boys than that of the pigeons. The latter were always up in the loft, out of reach and not proper subjects for handling or talking to, besides being shy and unsocial, except among themselves. But Nancy was down upon the ground, always accessible, even desirous of seeing company, and with so quick an ear that the slightest approaching footfall would bring her out of her warm hogshead to see what was coming. Whether it was company she wanted, or a bucket of swill, was of little apparent consequence. She turned out regularly when any one came near, and drew up to him with amusing familiarity.

The fact was that Bill Spangler had become as attentive to her as if she had been his sweetheart, and he seemed to live, and move, and have his being in hanging around the pen, or in getting over the fence to give her a grateful scratching with the currycomb. After a very brief practice under this rough shampooing, Nancy took to lying down on her side the moment Bill put his foot over the fence, and waited with an impatient grunt for Bill to begin. It was amusing to see how highly she relished these rough but acceptable attentions.



shutting her eyes as if oblivious of all outward things, even of the feeding-trough, dropping her ears in perfect repose, stretching out her legs, and abandoning herself entirely to the soothing influence. Everyone was satisfied that Nancy's skin became cleaner and whiter under this treatment, even to the putting on of a silky brightness. Uncle Benny was so sure that she was improving under it, that he gave Bill great credit for having undertaken the labor of two or three curryings daily.

Bill also kept the pen in order. Having been provided with a clean, dry bed, she kept that clean herself; for it is the instinct of a well-bred pig to keep his nest in good order, if a nice dry one be given him, with adjoining space for other purposes. In this useful duty Bill was not dismayed by the occurrence of a drizzling, muddy day. On the contrary, as the boys on such occasions generally had the most time to spare, so Bill spent his holidays in Nancy's pen, scraping and piling up the super-numerary contents, and putting in fresh litter. Of course his boots got so muddy that when going in to meals, the girls regarded him as an object of suspicion; and when he happened to stand too close to a hot stove, especially when his clothes were damp, the exhalations became so pungent as very justly to expose him to the most damaging imputations. But he was proof against all the slurs thrown out at such times. If his boots had been in the pig-pen, his heart had been there also.

Uncle Benny required all that Nancy consumed to be charged against her in a separate account, so that the boys should know whether she really did eat her head off, as her namesake in the house had spitefully predicted she would. There was no getting for her even a mouthful of kitchen-slop; Miss Nancy had been so strung up by having her name undervalued, that she was careful to throw all to her father's great long-legged hogs. But as a sort of equivalent for this manifestation of hostility, the boys picked up numerous odds and ends about the place for Nancy's benefit, such as they had never before thought of saving. When they saw a stray cabbage-leaf or turnip lying about, or a nubbin of corn they put it into their pocket until they had a chance of giving it to her. Though it was still cold weather, with no green things about, yet they were often surprised at the variety of trifles they could find when thus on the lookout for them. Between these three caterers, Nancy had quite a luxurious time of it, even though spitefully cut off from the run of the kitchen.

Uncle Benny watched the behavior of the boys toward their new pets, and as the winter wore away became more and more gratified at the beneficial influence which the care of them was exercising on their habits. He considered it a great gain for a very small outlay. Nor did he fail to remind Mr. Spangler of the important fact, going into particulars which compelled him to admit that these little concessions had done the boys much good. It was a hard thing for him to give up the convictions of a lifetime, but he did nevertheless—though sometimes winding up with a request that the old man would wait till the year's end, and see how the experiment would result.

As Bill was devoted to Nancy, he was up in advance of the other boys, and off to her pen to give her her breakfast. One morning early in March, on reaching it in the performance of his pleasing duty, he was confounded by seeing ten young pigs in the hogshead. There was too much grunting and squealing around Nancy to permit her to hear Bill's step as he came up to the pen, nor did she happen to see him. So he stood for a moment surprised beyond anything within his memory, gazing at the joyful sight, then turned back to the house, routed the other boys out of their bed, and ran shouting up to the girls with the glorious news that Nancy had ten pigs!

Of course it created a great sensation, and very soon the whole family was gathered around Nancy's pen. There was no denying the thing; Nancy had brought the boys ten pigs—nine plump little fellows and a runt. Even Mr. Spangler came out before he got breakfast to see if it could be so, and if the pigs looked any better than a litter which had fallen to his lot the week before.

As to the boys they were pleased beyond measure. Nancy came grunting and sniffing towards the spectators, as if the matter were a great relief to her also, and behaving as though a good warm breakfast, with plenty of it, would not come amiss.

Altogether it was a noisy and lively scene, and appeared to give general satisfaction. But its real interest lay in the single fact that Nancy belonged to the boys. Had she been one of Spangler's drove, no one would have felt much concern about the matter but herself. It also went far toward estab-

lishing another point—that when the boys of a farmer's family are permitted to interest themselves in any little independent operation of their own, the family itself is pretty certain to become interested also.

That very day the boys were to quit school for the winter; so they hurried off to the school-house to spread the news among their fellow-pupils. There was a great interest as well as great envy among them, for only one or two of the whole number had been allowed by their parents any privilege of the kind.

When the litter was three weeks old, Uncle Benny told Bill he must take out the runt pig and bring it up by hand, or it should surely die, and that would be a loss of at least ten dollars. The other pigs, which were fat and strong, fought it away from Nancy so that it got scarcely anything. He said that even the runt pig of a litter ought to have a chance, as well as the boys. He liked to see fair play all round. Bill accordingly took it away and kept it by itself. He fed it on the kitchen swill, which, having been cooked, was just what it needed, and nursed it up so faithfully, that in the end it turned out as fine as any in the litter, while he learned the useful fact that a poor dwindling pig could be saved and made a profitable animal by the exercise of a little care.

Before the middle of March the pigeons had laid and hatched. When it was ascertained that most of the nests contained young ones, Uncle Benny directed the boys to let the birds out by removing one of the slats, and adjusting it like a pendulum, so that it could be readily swung back again into its place, and the opening closed. They begun by opening this swinging doorway an hour or two before sunset, as at that time of day the pigeons would be certain to fly only a short distance from home, even if without young ones. They accordingly went out, took a short flight, as if merely to practice their wings, and all returned in good time. After a while the door was opened at noon, and the pigeons being found to be thoroughly domesticated, the front lattice was removed altogether, so that they could go and come when they pleased. The fact of their having young ones to feed made their stay a permanent one. This relieved the boys of much care, and the birds having the range of the whole farm, they obtained in the fields so large a portion of their food as to make a perceptible diminution of expenses.

After May had come, the boys set about planting the two acres of corn which they were to have for themselves. Spangler did not exactly like this part of the arrangement, but there was no getting out of it now, as by this time the pigs and pigeons had consumed so much corn and meal that he had good reason to expect a loss unless he gave the boys a chance to replace them. Uncle Benny selected a field close to the barn-yard, that had been sadly neglected. But there was no manure for it, as Spangler had emptied the barn-yard for his own crops. But he generously gave them the privilege of taking from it such scrapings as they could find. They accordingly went a manure-hunting with a will. Taking hoe, and rake, and shovel, they cleaned out at least twenty holes and corners where considerable deposits had been carelessly left for several years—all, therefore, nicely rotted. They poked their hoes under the barn and drew forth surprising quantities. They took up the loose planks under where the cows and horses had been standing, and turned out extensive deposits of the very best quality. Spangler was amazed at the extent of these collections, and now began to fear that he was likely to lose manure as well as corn. It seemed impossible for him to entertain any other idea than that whatever he gave to his boys, or allowed them to make for themselves, was so much loss to himself.

The supply being scanty, they were unable to give the land a good broad-cast dressing, yet they had enough to afford an extra quantity to each hill. This they applied faithfully and well, Uncle Benny constantly enjoining it on them to feed high—that the corn required feeding as much as the pigs.

"Blame the thing!" cried Bill, with sudden impatience, kicking away from him the dead body of a huge cat, "it's been in my way all day!"

"Now, Bill," said Uncle Benny, "bring the cat here again; I'll put it out of your way. That cat is manure, and must not be wasted."

"Now," said he, "plant that cat."

As directed, Bill took up the grains of corn from the last hill, dug a hole some ten inches deep, in which he placed the animal, then covered it with earth, on which the grains were replaced and again covered, as before. There was a good deal of laughing and shouting among the boys while this

was going on; but when the thing was done, Joe looked up to the old man and inquired, "What's the use of that, Uncle Benny?"

"Why," said he, "you put a small shovelful of manure in each hill, but that cat is equal to four shovelfuls. Besides, Joe it is a clear saving. If the cat had been allowed to dry up on top of the ground, its richness would have gone to waste; and you must learn never to waste anything, for it is by the saving of small things, no matter what they may be, that men grow rich. Now watch this corn-hill, and see how the roots will grow up strength and vigor from that decaying carcass. It will be the best hill on the whole field. I wish we had a cat for every one of them."

When selecting his particular piece of ground for a cornfield, Uncle Benny had had an eye on the adjoining barn-yard. Mr. Spangler had caused its fluid contents to be discharged into the public road, nor was there any likelihood of his going to the slight trouble necessary to prevent such wholesale waste. Uncle Benny quietly undertook it for him, by opening a new outlet directly into the cornfield. As Spangler had tried his hand at wasting, the old man would try his at saving. The ground was so situated as to make this the work of only an hour or two. It was done so effectually that not a drop ran to waste as formerly. On the contrary, whenever a heavy summer thunder-shower fell, there could be seen a torrent of dark liquid rushing through the barn-yard, and pouring away into the cornfield, diffusing itself over at least half an acre. There was no means of causing it to irrigate a greater surface. The rain diluted the concentrated liquid down to the exact strength for the corn roots to drink in and stimulate the plants.

This ingenious bit of engineering gave rise to no remark from Spangler beyond his saying that he was glad to see the barnyard so much drier than formerly. The old man had in fact drained it effectually. There could be no denying that it produced remarkable results. In whatever part of the cornfield this wash of the barn-yard was carried by the spring rains, it bore with it so stimulating a vigor that there the corn came popping out of the ground in advance of all other places. In addition to coming up earlier, the corn was evidently stronger and healthier, presenting a deeper tinge of green throughout the season. It refused to turn yellow under a succession of cold days and colder nights, though all the other plants became pale and spindling. Many of the hills showed double the number of ears that the others produced.

The boys could not fail to notice these things from the start. The weeds came in to share in this general feast of fat things. As this had been a neglected spot, so there the weeds had been allowed, for many years, to grow and ripen their seeds. These seeds, now fed by ten times their usual supply of nourishment, sprang up rapidly and thickly in proportion. Every dormant germ seemed to put on vitality under the quickening influence. Varieties now vegetated which had not been seen on that place for many years. These numerous peets had evidently started with a determination to dispute with the corn for undisturbed possession of the ground. Had they encountered no opposition, they would have quickly smothered the whole crop.

But as they multiplied, so did the labors of the boys increase in subduing them. Uncle Benny was compelled to spend most of his time in keeping this crop clean. He had set out to raise corn, not weeds. Moreover, he had a stake in it as well as the boys. But while working with his hoe around the cornhills, he was never tired of admiring the surprising difference between the half acre upon which the barn-yard had been emptied and that of the remainder of the field. The latter was good, but the former was magnificent. It maintained its superiority throughout the season, the roots striking into the earth so widely and deeply as to hold up the stalks in a heavy August storm which prostrated half of the others.

It afforded, moreover, too striking an illustration of the theory and practice of applying manure, to be overlooked. The boys, frequently working in the cornfield, came to understand clearly how it was that a plant grew almost wholly by virtue of the liquids that were supplied to its roots, not by merely undecomposed manure. They knew well that rain-water was a good thing, but here they saw that, when the barn-yard extracts were mingled with the rain, the mixture was the true food for plants. So clearly were they made to comprehend this formula, that they regretted a hundred times their inability to bring a larger portion of the cornfield within convenient distance of the barn-yard. [To be continued.]





The Family Circle.

"Home, Sweet Home."

A Fashionable Marriage.

IV

One morning toward the middle of July the postman calls at Bramble Cottage and leaves a letter for Miss Parkhurst, who is seated in the pretty little morning room at work. Under Annie's reign the house and its inmates have improved, both being far more orderly than in the old days. The Major is on the veranda, absorbed in his paper, and Annie is feeling a little lonely now that Marion is married, and the boys are all away. She takes the letter handed to her, and opens it eagerly on discovering it to be from Lady Windholm. It runs as follows:

My Dear Annie: I am ashamed to think how long it is since I received your last kind letter. I must tender my usual apology for not writing before—press of engagements. But in truth this has been a very busy season, and I have scarcely had a moment to myself. However, it will soon be over. More than half the people have left town, and we, too, are going on the 24th. We give a dinner party on the 21st, which prevents our leaving earlier. Now, dear, I want you to give my kind regards to Major Parkhurst and ask him to spare you for a few weeks. I should like you to come at once, if possible, so that you will have a few days in town before we leave for Yorkshire. I hope you will not disappoint me, for I shall not have another chance of seeing you for a long time, as I am ordered to winter abroad. I am tired and jaded, dear, but the sight of your fresh, bright face will, I feel sure, revive me. Ever yours affectionately, Geraldine Windholm. "Do you think you can spare me, papa?" asks Annie, eagerly. "Certainly, my dear," replies the old gentleman. "I shall be glad for you to have a change. Go as soon as you like." Thus it is settled, and in two days the little country girl is with her aristocratic friend.

Lady Windholm is very pleased to have her, and talks more to Miss Parkhurst in an hour than she does to most of her lady friends in a week. About herself she says nothing, but Annie is not blind, and reads aright the beautiful, weary face. She sees what a bitter mistake life has proved to this fair girl. She sees the lovely face reddened and pale whenever Lord Windholm's unsteady step is heard. She knows the constraint Geraldine puts upon herself at times, and her heart is full of pity for her friend.

"If you please, ma'am, my lady says will you kindly come to her room when you are dressed?"

Annie replying in the affirmative, the maid closes the door. "It is the evening of the 21st, and Miss Parkhurst is dressing for dinner, assisted by the house-keeper's little maid, who is very deft and handy. She gives a satisfied glance at herself as she rises to seek Geraldine. She wears a dress Lady Windholm ordered from her own dress-maker, a delicate silk trimmed with pale blue. Annie has never yet had any dress so rich and elegant, and she hardly knows herself.

She finds the young Countess alone, and somehow looking more beautiful than she has ever seen her look before. Her dress, composed entirely of black lace, shows to advantage the dazzling fairness of her skin. The bodice is cut with a small square, and the sleeves reach to the elbow, for Lady Geraldine is getting very thin. Only this evening her maid has been regretting the fact. Round the white throat is fastened a pendant necklace of superb rubies, which glisten and flash with every movement.

"Annie, I want to give you this row of pearls. Do you like it?" and Lady Windholm hands it to her.

"Oh, how lovely! Geraldine, how can I ever thank you for such a present? or, indeed, how can I accept anything so costly?"

"Nonsense, child; there are no thanks required. The pearls will look well on your pretty round neck, and I shall like to know you have them. I have never worn them since the time I stayed with you, years ago. Now let us go down. Mr. Chillingham will take you in to dinner, remember. Why, Annie, is that a blush? Well, I would rather see you blush for him than for any man I know. He is not particularly rich, but he is good and noble. I fancied somehow Mr. Chillingham would not find fault with my choice of a lady for him to escort. He scarcely left your side all yesterday."

The party gathered at Prince's Gate this evening is rather large, and the Earl and Countess of Strathmore are among the guests. Lady Strathmore is quite satisfied with her daughter. She smiles inwardly to think what a perfect hostess she makes—so merry and thoughtful, and withal as stately as a young queen. A few minutes before dinner is announced Geraldine leaves the room in compliance with a message from her husband, who is in his dressing room.

"I have a racking headache," is his greeting. "Can't you give me some salts or something?"

"When did it come on?" asks Lady Geraldine.

"This afternoon. I met Carew and he told me something that rather put me out; that is the reason."

"Have you tried any remedy?"

"A little brandy," says the Earl.

Geraldine knows it. Her husband's habit is fast becoming stronger than his sense of decency. Here are twenty people in the house waiting for dinner, and the host in a state quite unfit to receive them.

"You had better lie down," she says, calmly, "and I will send Parsons with some soda-water and my salts. Perhaps you will be able to appear at dessert." And she quits the room to make an apology for the host's non-appearance.

But Lord Windholm is an obstinate man. Just as the butler announces dinner he comes into the room, and, saying he feels considerably better, offers his arm to the Duchess of Braemur, while the other gentlemen seek their partners also.

Annie, who is seated where she can plainly see Lady Windholm, notices that her face is brightly flushed, and her eyes

are sparkling like stars. But she is very lively, and during the whole dinner keeps up an animated flow of conversation. Annie is fascinated, and yet she cannot think what makes her long to see Geraldine burst into tears. At last the young Countess rises. Instead of moving to the door, which young Chillingham hastens to open, she stands perfectly still, her face becoming white as marble. All eyes are fixed on her. The rubies rise and fall with her quick breathing, and then she falls, and the lace dress is covered with a tide of crimson. There is one mute second of breathless horror, and then she is gently raised and carried to a sofa. The blood is still flowing, and she is so motionless that they think she is dead.

But the doctor, coming in an incredibly short time, assures them that the Countess still lives, though her hours are numbered. Gently they carry her up stairs and lay her on the satin bed, from which she will never rise, the fair, lovely flower perishing ere it reaches maturity. The guests disperse, silent and awe-struck. It is dreadful to have death brought so near in an hour of pleasure, to have so grim a guest at a banquet.

The Earl of Windholm, with a white, frightened face, seeks the doctor.

"Is there any possibility of her living?" he asks anxiously. "I grieve to say there is not the least hope of her ladyship's life," replies the doctor. "This is not the first time she has ruptured a blood-vessel, and her constitution has never been strong. Added to which, there is a great weakness of the heart. But I am at a loss to conjecture what brought on this violent hemorrhage. Has she been frightened or worried in any way?"

"I think not," the Earl answers. "But may I see her?"

"Certainly, but remember, Lord Windholm, that any excitement will shorten the few hours that remain to her."

Lord Strathmore is almost frantic. He sends for the most eminent physicians, but they all say the same. Nothing can be done for Lady Windholm; she is past help.

Lady Strathmore's cold face pales at the words. Might her daughter's fate have been different if her life had been happier? What is the use of wondering what might have been? One has to do with what is.

It is far into the night before Lady Windholm opens her eyes. Looking about and seeing the number around her bed, she whispers to the doctor, who is holding his fingers on her pulse: "Send them all away; I want to be alone." When her wish has been carried out she asks for Miss Parkhurst, who comes immediately. "Annie," she whispers, "are we quite alone?"

"Quite," answers Annie, bravely stifling her sobs.

"Then take off the locket that is round my neck. There is a tiny knob of gold at the bottom; press it." Annie does so, and reveals, not a portrait, as she expected, but a tiny spray of withered flowers.

"Annie," says the weak voice again, "bend lower. Will you take the locket and send it to Jack, and tell him with my dying breath I sent my love."

Annie starts and trembles, but promises to carry out Lady Windholm's wishes.

"Then kiss me, dear, and let the others come in; I am getting weaker every minute. Poor Jack!"

These are her last words. She smiles at her father and mother, and at her husband, but cannot speak. They press near with restoratives, but the mute appeal of her eyes is not to be disregarded, and she is left in peace. Just before the breaking of dawn she heaves a long, deep sigh, which carries with it her last breath.

The beautiful Countess of Windholm is at rest. Her weary heart will never ache again.

Long years afterward, when Annie is a staid matron with grown-up sons and daughters, a chance word from her youngest, a girl with the aristocratic beauty of the Chillinghams stamped on her face, brings back the past with vivid distinctness.

"I mean to be rich and important, so I shall marry for position," she affirms with all the decision of seventeen.

"God forbid!" retorts the mother solemnly. "No marriage in any position can be happy that is not based solely on pure affection."

Suddenly before her comes the vision of a woman dying in the height of her youth and beauty, and a young man lying sick unto death in a far-off land, with nothing to console his last moments but a little locket containing a spray of withered flowers.—*The Argosy.*

Exercise.

Give your brain sufficient food and an abundant supply of good hard work every day, if you wish to maintain it in a high state of healthy activity. Barristers and clergymen, who use their brains much, are the longest-lived men in the country, showing plainly that regular brain work is good for the general health as well as for the efficiency of the nervous system in particular. The muscular system must be treated in a similar manner, if you do not wish to become subject to fatty degeneration. An unused muscle shrinks, and becomes soft and flabby, presenting an appearance of marked contrast to the brawny arm of the blacksmith. Instances of the feebleness of tissues thus preserved frequently present themselves to the notice of the surgeon. A muscle is called upon to perform a vigorous contraction, but it snaps in the effort. The heart itself is sometimes torn asunder in attempting to send an extra supply of blood to some needy limb. No man can afford to lower his general vitality for the sake of mere idle gratification. He never knows when he may require all the energy which can be stored up in his tissues. A railway accident, a runaway horse, a run to catch a train, a fall on the ice, or even a fit of coughing, may bring a life of misery or an early death to one who would have passed unscathed through them all had he allowed his nerves and muscles to wear away in vigorous activity, instead of carefully preserving them, like smoked bacon, in the fumes of tobacco.—[Knowledge.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—I must begin by thanking you for sending in so many answers, and for so many kind and encouraging letters to your old Uncle Tom, and, at the same time, I cannot help reciprocating the good feeling that has been extended to that old relation of yours. You are now, I expect, in the midst of your holidays; a time more pleasant to many of us old folk, though I hope not to you, in anticipation, than in the participation. The question of most general interest with you children now, is: When is the next picnic to be held? Where are they going to have it? The date being ascertained, preparations are forthwith proceeded with; chickens are to be prepared, sandwiches made, pies, cakes, tarts, &c., are to be made and all the details and arrangements required for appeasing the inner man are carefully studied by your sisters and your cousins and your aunts. The eventful day has come, and for once all are pleased, even the horses seem to understand that the day is one to be devoted to enjoyment. After a pleasant drive the ground is arrived at, and immediately a craving appetite reminds us that the time for dinner has arrived. Tables, chairs, &c., are improvised usually on nature's carpet. After dinner the fun commences, games, swinging, races, boating and bathing, all come in for their share of patronage, and all goes "as merry as a marriage bell." All assemble again at tea time, and when this is over, the remnants are hurriedly bundled into the baskets, and once again you are on your homeward way, still making the roads merry with your songs, and silence only again reigns supreme when you have passed into the arms of Morpheus. Next morning the routine of your daily life begins anew. For the men, harvesting; for the ladies, domestic affairs; for the children also many are the small chores which are found for them, as your Uncle Tom found out when he was about your age. But though you find plenty of work to do, remember that "too much work makes John a dull boy." See that your days of work are interspersed with days devoted entirely to pleasure and recreation. And in your leisure take the FARMER'S ADVOCATE and work out some of the puzzles, and send the results to us, and also endeavor to forward us some original puzzles, and thus help to make more enjoyable the vacation of your loving

UNCLE TOM.

P. S.—On reading the proof sheets, I find that Minnie May and myself have, by a natural coincidence, written to some extent on the same subject, viz.: "outing." However, they have special interest for this season, and I would ask you to remember that while her remarks are entirely for nieces, mine are more particularly for nephews, though I would be happy to add more nieces to my family also.

U. T.

PUZZLES.

SQUARE WORD.

- 1st. One of the bright bodies in the heavens.
- 2nd. A narrative or story.
- 3rd. Relief given to the poor.
- 4th. Sleep or ease.

DOUBLE ACROSTIC.

The total; a number; a weight; an article of dress; above; a distorted mouth; an interjection; a luminary. My initials and finals read downwards give the names of two Canadian cities.

A. J. TAYLOR.

PUZZLE.

My three first is an animal's name; My three next a being precisely the same; My last two in India and Spain you will see, My whole when found out a life taken would be.

CHARLEY STEVENS.

RIDDLE.

Clutch a flower with all your might, A painful place 'twill bring to sight.



## ANAGRAM.

3n 647ks 4f 11b457s 4f sk3ll 3 645ld b2 b5sy t44  
f47 s1t1n f3nds s4me m3sch32f st3ll f42 3dle hlnds  
t4 d4. C. S. STEVENS.

## Answers to July Puzzles.

- 1.—Warsaw.
- 2.—Civic.
- 3.—T E A M  
H A V E  
A F A R  
M A R S  
E L B E  
S W A Y
- 4.—Politics.
- 5.—Dollar, Franc, Lira, Mark.
- 6.—Glass, lass, ass.
- 7.—It seems funny to have a dear uncle,  
One whom we never have seen,  
Sometimes I think it is true,  
But often it looks like a dream.

## Names of those who sent Correct Answers to July Puzzles.

Charles S. Stevens, Minnie Winter, Charles French, Esther Louise Ryan, W. H. Bateman, Richard Kingston, Gib Arnold, Charlie S. Husband, A. J. Taylor, Robt. Wilson, Simeon Ashley, Annie Gay, J. A. Key, Morley J. Pettit, Samuel Albright, Jessie A. Brown, James McCready, Colin Campbell, Arthur S. Alton, Minnie Durand, Carrie Alice Cousins, Wm. Montgomery, Geo. Green, Minnie G. Gibson, C. Gertie Heck, A. Phillips, C. G. Keys, Jr., Nellie McQueen, Maggie MacFarlane.

## HUMOROUS.

A Scotch minister was once busy catechising his young parishioners before the congregation, when he put the first question to a stout girl whose father kept a public house: "What is your name?" No reply. The question having been repeated, the girl replied, "None o' yer fun, Mr. Minister; ye ken my name weel enough. D'ye no say when ye come to our house on a night, 'Bet, bring me some ale?'"

A hen is a most inconsiderate and unaccountable creature. Now that she can lay eggs worth three cents apiece, she takes a vacation and refuses to have anything to do with the business. By-and-by, when chicken seed are down to fifteen cents a dozen, she will put on extra help, and even work nights to flood the market. The hen is no financier.

Extract from a young lady's letter: "And, do you know, Maud and I are quite sure Captain Pople had taken too much champagne at the ball, for he took out his watch and looked hard at the back of it, and then muttered, 'Blesh my shoul! I hadn't any idea it was that time 'o night.'"—[Boston Star.

## Minnie May's Department.

MY DEAR NIECES.—What a pleasure it would be if I could step in and see each one of you, and know how you are enjoying your vacation; but my dear girls are too numerous and scattered for such a thing to be possible, therefore I must content myself with writing.

Perhaps it might be of interest to you to know how some of my young days were spent. When in the country we had a great liking for improvised entertainments, they being advantageous in many ways, for when invited in the morning for the same evening, or at early breakfast time for a country outing, people do not expect so much of a spread. On a fine pleasant morning we would ask some friends to join us in a ramble to some picturesque lake or valley, within a reasonable distance; and

in less than an hour, enough would be found at liberty and willing to make the expedition a social success, and with such simple provisions as could be collected amongst us at a short notice, we set out for the day. We chatted gaily on the road, ate our meal and rested under the trees, played outdoor games and botanized, thus enjoying the day intensely, and in the cool of the evening set out for home much refreshed. Sometimes we arranged for picnics at a distance, either by rail or by boat; in such cases we were obliged to make our preparations beforehand. At night we collected all the articles requisite for such an expedition, and when morning came it was only a few moments' work to pack the baskets. We avoided taking more dishes or heavy articles than were actually necessary for comfort; a plate, cup, knife, fork and spoon for each, a table cloth and whatever eatables were thought proper and most convenient for carrying, only not an expensive or elaborate "spread." How thoroughly primitive and enjoyable it seemed to sit around that snowy cloth, laden with tempting viands, while the soft, velvety grass furnished us with seats, far surpassing those of our dining-room. Who could help enjoying such a scene, while the fresh breezes from the lake or river seemed to make our appetites more ravenous. After our repast we would stroll by the water's edge, gathering shells and stones, or trying our hand at fishing. Many very happy days have I spent in this way; even now I am not too old to enjoy these youthful pleasures.

PICKLED WALNUTS.—Select full-grown green walnuts or butternuts when they are soft enough to be easily pierced through with a needle. They are usually in fit condition in July. Pick one hundred nuts well through and lay them into a brine made of four pounds of salt to each gallon of vinegar; let them remain nine days, and at the end of the third and sixth days change the brine for fresh. On the ninth day lay them in the sun. After they are well drained place them in the sun till they turn black; they will need to remain several days. Boil one gallon of vinegar, two ounces of black pepper, half an ounce of cloves, one ounce of mace, one ounce of allspice and one ounce of root ginger sliced, ten minutes, and pour it over the walnuts, which have been packed in jars three-quarters full. When the vinegar cools cover them up tight. They will be ready to use in a month, but they are better in a year, and will keep ten years. This pickle is an excellent accompaniment of fish.

RHUBARB WINE.—Prepare and stew the large juicy stalks of the rhubarb plant the same as for sauce, using just water enough to cover the rhubarb. When cold, strain out the juice, and to every three pints of juice add three pounds of sugar and a sufficient amount of water to make a gallon of liquor. Place in uncorked jugs or a sweet, clean keg, with the bung out, for ten or twelve days. Remove any scum that may rise to the surface. Add a little brandy, say one gill to each gallon of wine. Replace corks or bung, as the case may be, for a day or two, or until all signs of fermentation have ceased. The wine may now be racked off into bottles and sealed up.

RASPBERRY VINEGAR.—To one quart of raspberries, add one quart of vinegar, let it stand thirty-six hours, then strain; then to one pint of juice, add one pound of sugar, scald it slightly, strain and bottle it. It is a good summer drink.

## Answers to Inquirers.

ENGLISH VIOLET.—I want to ask you if it is against rules of etiquette for a young boy of fifteen to correspond with a lady of twenty-one, they having never met? The correspondence began in a business way, and now there is some chance of its being continued in a friendly way. **ANS.**—A young woman of twenty-one

may certainly write to a boy of fifteen if she care to do so. The correspondence would probably be improving to him, and if she be a good, sensible young woman, she may do the lad much good. Of course there should be no sentimental nonsense in such letters; they should be simply sensible, friendly interchanges of thought.

EDNA writes a long letter telling her miseries brought on by bashfulness, especially bashfulness when gentlemen are present, and asks for advice as to how to overcome this timidity. The only way is to go into society more, and while among strangers try to forget herself as much as possible, and be pleasant and considerate towards others. As "Edna" says she has many girl friends, she might always keep one by her while talking with gentlemen, until this feeling wears away. Bashfulness is generally the result of too much self-consciousness, and too great anxiety to appear well before others. One should try to talk naturally and not trouble about making a good impression, or displaying great power of conversation, and bashfulness will soon wear off. It is generally the most conceited people who are most bashful, and shy people are often easily offended.

INQUIRER asks for a remedy for scurf in the head, also something to prevent the hair from falling, and that will make it grow thicker. **ANS.**—Bathing the head frequently in water in which some borax has been dissolved, is considered by many an excellent thing for cleansing the head. Another remedy is, 1 pint of good bay-rum, ½ ounce glycerine, 1 tablespoonful fine salt, 1 ounce tincture of cantharides. The above we can recommend, it being used in our family after scarlet fever to prevent the hair falling; it also keeps the head nice and clean. Use two or three times a week by rubbing well into the scalp with a small sponge. We certainly do recommend Carboline; it is excellent for the hair in every way, particularly for scurf.



ILLUSTRATED REBUS.—Won by Miss Annie Hammond, of Delaware, Ont.

Now let me make a few suggestions to my country nieces about the entertainment of town guests at home. Do not put yourselves out by trying to provide them with what they are accustomed to at home, for nothing is so agreeable as a change in food as well as surroundings. Depend on it, the country milk, cream, fruit, vegetables, home-made bread, new-laid eggs, and country ham, will commend themselves to the improving appetites of town-bred guests. And by all means let them have the real pleasure of gathering their own desert.

Next, a word about the arrangement of the table, in order to render it attractive. Let the table cloth be snowy and uncreased, everything in glass, china, or metal be bright and sparkling. Nothing will add so much to the beauty of the simplest table as a few flowers prettily arranged. If you have not nice cultivated flowers, take a soup-plate, fill with moss and wild flowers, place a tall glass in the centre with some vines trailing round the stem, and in the top put some pretty green spray with a cluster of scarlet geraniums. This makes a truly beautiful ornament for the table, and will not fail to please the eye of your guests.

I trust, dear nieces, that my few remarks may be of some benefit in helping you to enjoy your vacation and making your friends happy.

MINNIE MAY.

## Recipes.

CANNED CURRANTS.—Use four pounds of sugar to nine pounds of currants, and heat them gradually till they come to a boil. Black currants canned the same way make an excellent sauce without further cooking and are very nice for pies and tart



**Jerboas, or Leaping Mice.**

The jerboa is a small rodent, or gnawer, with very long hind legs and diminutive fore ones, and is the principal representative in the Old World of the rodent sub-family *dipodeme*. Its general form and habits have some striking resemblance to a bird's. His body, like that of a bird, is supported on two long legs, and, in both, the length of the leg is caused by the excessive prolongation of that part of the foot called the tarsus or metatarsus, so that, when standing, the heel is elevated much above the ground. The bones of the metatarsus, which are normally fine among the vertebrata, are, in this instance, reduced to three, and occasionally to one single bone in that part of the foot that extends from the heel to the toes. The folded fore legs of the jerboas are as unnoticeable as the folded wings of a bird, and its skull is large and spare.

These resemblances might be greatly increased, but though they are very curious they are merely accidental, and do not at all prove that the jerboas are related to the bird family.

The jerboa has a large head, ending in a little muzzle, long moustache, enormous soft black eyes, and long sharp ears. His tail is long and cylindrical, enlarged at the end, so that it can be used, like the kangaroo's, to support the body while jumping, and has a little tuft of black hairs tipped with white. The foot is protected under the toes by elastic cushions of flesh covered with stiff bristles. The body is generally about the size of a rat, but in one species found in Middle Africa, the *Pedetes cafer*, or jumping hare, the body is as large as a rabbit. The fur is soft and fine, a charming fawn color above and underneath a brilliant white. These little animals belong almost exclusively to the Old World, and are found in the deserts of Africa, Asia, and Eastern Europe. One single species is known in America as the *Jaculus hudsonian*, or jumping mouse, as it is popularly called. It is found as far north as latitude 61°; its body is about five inches in length, its tail a little longer, ending in a hairy tuft, its color is reddish brown, shading into white beneath the body.

There are two species found in Algeria; the Egyptian is the most common, and is represented in our illustration; the other species, the "Dipus hertipes," is rare, and inhabits the extreme southern part of the desert of Sahara; it is smaller, and its fur is more fine and white than the former species, the Egyptian jerboa, which may be taken as a type of this whole family. Its ears are two-thirds as long as its head; its stiff moustaches and the tufts of hair on its tail are brown at the base and white at the tip.

They live in colonies, and dig deep, far-spreading burrows in the ground.

They are very timid animals, and is only possible to catch them at that season of the year when the female bears her young. At that time, like the rabbits and other burrowing animals, she leaves the common burrows, and digs a new, isolated one for herself, where she can make her nest out of old rags and leaves.

They make very pleasant pets; they are bright and lively, perfectly gentle, and very affectionate. But they are delicate, and it is difficult to keep them alive even in warm climates. They are clean and intelligent.

The jerboa moves very rapidly, and in its native

deserts even those swift dogs, the songhis, that catch the hare and the gazelle, cannot overtake it. It escapes pursuit as much by the irregularity of its course as by its quickness.

The dog jumps on it, and it suddenly springs to one side, and before the dog can recover, is already a dozen miles away to the right or left.

In all circumstances, whether springing or peacefully walking, the jerboa only uses its two strong hind legs; the fore legs are folded under its chin, and cannot be distinguished without careful observation. They are only used to convey its food to the mouth. [—La Nature.

**Billy Grimes, the Drover.**

"To-morrow, ma, I'm sweet sixteen,  
And Billy Grimes, the drover,  
Has popped the question to me, ma,  
And wants to be my lover;  
To-morrow morn, he says, mamma,  
He's coming here quite early,  
To take a pleasant walk with me  
Across the fields of barley."

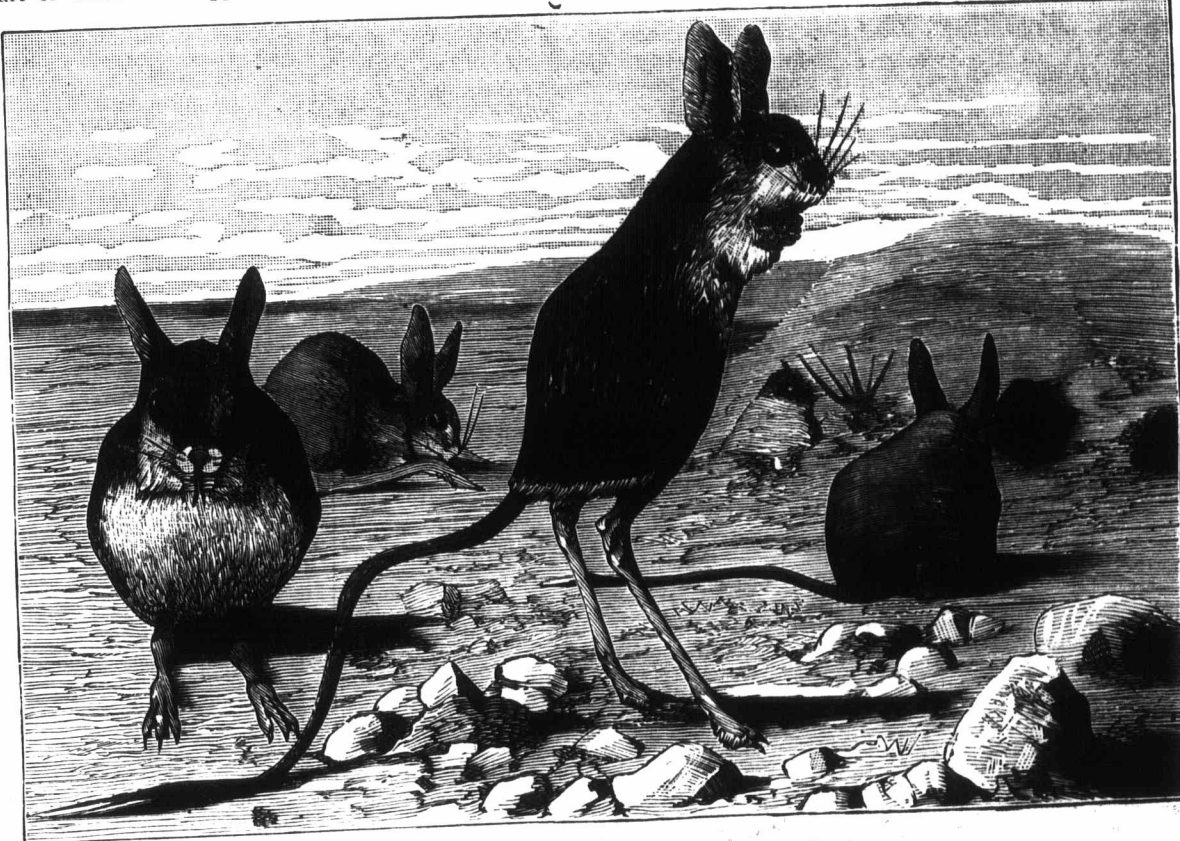
"You must not go, my gentle dear,  
There's no use now a talking;  
You shall not go across the field

**The Orang-Outang.**

Mr. W. T. Hornaday, in the last volume of the "Proceedings of the American Association," gives some new and interesting information on the orangs of Borneo, the results of his own observations during a lengthened stay in that island. Leaving the *genus homo* out of the question, the orang-outang occupies the third place from the highest in the animal kingdom, the gorilla being first and the chimpanzee second. The most striking feature of the orang is its great size and general resemblance to man. The chest, arms and hands are especially human-like in the size and general outline. So far as Bornean species are concerned, Mr. Hornaday is certain that each individual differs as widely from his fellows and has as many facial peculiarities belonging to himself as can be found in the individuals of any unmixed race of human beings. The face of the more intelligent orangs are capable of a great variety of expression, and in some the exhibition of the various passions which are popularly supposed to belong to human beings alone is truly remarkable. Mr. Hornaday had in his possession in Borneo four young orangs. Three were dull and intractable, but the fourth was a perpetual wonder to both Europeans and the natives themselves. Mr. Hornaday had that little animal in his possession for four months, and for a number of weeks it lived

in the room with him, so that he watched it almost constantly. The expression of the face was highly intelligent, while the intellectual development of its forehead and entire cranium would have been quite alarming to any of the enemies of the theory of evolution. This specimen was a fine healthy male infant, from seven to eight months old, height 22½ inches, extent of arms 37 inches, weight 15½ lbs. He exhibited fully as much intelligence as any child under two years of age, with all the emotions of affection, dislike, anger, fear, cunning, playfulness, and even *enmity*. When teased beyond endurance he would first whine piteously; but if continued he would throw himself upon the floor kicking and screaming

and catching his breath as loudly and natural as any spoiled child. He was afraid of strangers as a rule, but decidedly attached to Mr. Hornaday and his Chinese servant. When alarmed at the presence of a large dog or other animal, he would shuffle up to Mr. Hornaday as fast as possible and climb with all haste into his arms. Whenever a cat happened to come near him, he would immediately grab it by the tail with the very same action and bright mischievous expression of countenance as we have all seen in human children. Male orangs are much given to fighting, and, like many roughs of the human species, they seem given to attacking each other's fingers with their teeth. Whenever Mr. Hornaday's baby orang became angry with him, it would, if possible, seize him by the wrist and draw his hand to his mouth until it could seize one of his fingers with its teeth; but while it would make a great feint to give him a terrible bite, it knew enough not to bite harder than he could comfortably endure. The nest of the orang-outang consists of a quantity of leafy branches broken off and piled loosely into the fork of a tree. He usually selects a small tree, and builds his nest in the top; he always builds his nest low down, often within 25 ft. of the ground, and seldom higher than 40 ft. It is usually 2 ft. in diameter and quite flat on the top. The branches are merely piled crosswise; in fact the orang builds a nest pre-



**JERBOAS, OR LEAPING MICE.**

With Billy Grimes a-walking,  
To think of this presumption, too,  
The dirty, ugly drover!  
I wonder where your pride has gone,  
To think of such a lover!"

"Old Grimes is dead, you know, mamma,  
And Billy is so lonely.  
Besides, they say, to Grimes' estate,  
That Billy is the only  
Surviving heir to all that's left:  
And that they say is nearly  
A good ten thousand dollars, ma,  
And quite six hundred nearly!"

"I did not hear, my daughter, dear,  
Your last remark quite clearly,  
But Billy is a clever lad,  
And no doubt loves you dearly;  
Remember, then, to-morrow morn,  
To be up bright and early,  
To take a pleasant walk with him  
Across the field of barley!"

A father scolds his son for his numerous youthful errors:—"Really, father, you were once young. Did you never frolic?" "Never," said the father with a melancholy sigh: "when I was young I had no money, and when I became rich it was too late."



cisely as a man would build one for himself were he obliged to pass a night in a tree top and had neither axe nor knife to cut branches. Mr. Hornaday had seen one or two such nests of men in the forest where the builder had only his bare hands with which to work, and they were just as rudely constructed, of just such materials, and in about the same general position as the average orang nest. Upon this lofty platform the orang lies prone upon his back with his long arms and short thick legs thrust outward and upward, firmly grasping while he sleeps the nearest large branches within his reach. An orang probably uses his nest several nights in succession, but never after the leaves become withered and dry, no doubt for the reason that the bare branches afford an uncomfortable resting place. Mr. Hornaday never saw nor heard of any house building by oranges; but his little pet orang would invariably cover his head and body with straw or loose clothing the moment it began to rain, even though he was under a roof all the time. "Let any naturalist," Mr. Hornaday concludes, "who is prejudiced against the Darwinian views go to the forests of Borneo. Let him there watch from day to day this strangely human form in all its various phases of existence. Let him see it climb, walk, build its nest, eat and drink and fight like human roughs. Let him see the female suckle her young and carry it astride her hip precisely as do the coolie women of Hindostan. Let him witness the human-like emotions of affection, satisfaction, pain and childish rage; let him see all this, and then he may feel how much more potent has been this lesson than all he has read in pages of abstract ratiocination."

#### Agricultural Exhibitions for 1882.

The Provincial, Kingston, Ont., 18 Sept.  
Western, London, Sept., 25, 26 and 27.  
Great Central, Hamilton, 26 Sept.  
Industrial, Toronto, Sept. 4th to 16th.  
Permanent, Montreal, P. Q., 14 Sept.  
North Lanark, Almonte, Oct. 4th and 5th.  
Counties of Digby, Yarmouth and Shelburn, at Yarmouth, 12th and 13th Oct.

Ellwanger & Barry, of Rochester, N. Y., forward their autumn catalogue of strawberries.

J. C. Robinson, Owen Sound, Ont., has issued a neat circular on potted strawberry plants, to which attention is directed.

E. P. Roe, Cornwall, N. Y., has made a speciality of potted "Bidwell," and invites applications for his catalogue.

A copy of advance report of experimental farm, by Prof. Brown, of Ontario Agricultural College, Guelph, Ont., is acknowledged, and will receive early attention.

The American Forestry Congress will meet at Montreal on the 21st and 22nd inst. Mr. Little, Esq., Vice-President, 132 St. James St., Montreal, Que., will give all necessary information to any desirous of being present. This congress will meet two days previous to that of the American Association for the Advancement of Science. Therefore, parties are enabled to attend both of the meetings of these useful societies on one journey.

We are indebted to Robt. Clark & Co., publishers, of Cincinnati, Ohio., for a copy of Hough's Elements of Forestry. This work presents a concise outline of the general subject of forestry, with directions for the planting and care of trees in groves or as wind breaks, &c., and will no doubt prove an acquisition to this growing branch of agriculture.

We have received the July report for the Department of Agriculture at Washington. We notice that throughout the States the increased area of corn is 4 per cent. of fully 2,500,000 acres. The condition of corn is low from late planting, cold and wet, but is improving, and is in fair vigor and active growth, promising better condition should the season continue favorable. The condition of wheat stands higher than at any previous July since 1874. There is also an increased area of potatoes amounting to 7 per cent. Other crop prospects are flattering.

To secure fine tomatoes for next year thoughtful gardeners select smooth, evenly shaped fruit this season for seed. The requisites are medium size, thick, solid flesh, few seeds, rich bright red color, and a perfect outline entirely free of protuberances. Lay them in the sun until decomposition sets in, then wash out the seeds and dry perfectly.

Messrs. Charles Connell & Co. have just launched at Scotstoun, on the Clyde, a magnificent iron screw steamer of 3,850 tons, which they have built for the Dominion Line of steamers. She was named Sarnia, with the customary ceremony, by Mrs. J. R. Montgomery, of Liverpool. The Sarnia is built to class 100 A1 at Lloyd's, with a number of extras beyond the requirements for the highest class. Accommodation is provided for a large number of first-class, intermediate and steerage passengers. The saloon and staterooms are amidships, being finished in an exceedingly neat and tasteful manner, nothing being overlooked likely to add to the comfort of the passengers. The Sarnia is expected to be ready to sail the beginning of September. Messrs. Connell & Co. have on hand for the same company a sister ship, to be named Oregon, which is now rapidly approaching completion; and they have also in a forward state the Vancouver, a steamer of 5,700 tons, which is to take her place with the others, all three being first-class passenger steamers, to run between Liverpool and Canada, not carrying any description of live stock.

#### Stock Notes.

Under date of 13th ult., Geo. Wilken, Water-side-of-Forbes, Scotland, writes to lay over his advertisement, as he has sent over 200 head of Polled Aberdeens to old clients in America this year, and there are now no cattle for new clients.

Wm. Rolph, of Markham, Ont., has issued a neat catalogue of his Glen Rouge Herd of Jerseys.

W. M. Miller, of Claremont, Ont., has sold to J. S. Armstrong, of Speedside, Ont., 12 imported Oxford Down ewes. Mr. Miller states that his stock of over 200 sheep are in healthy, good breeding condition, and well worthy an inspection.

The Experimental Farm in connection with the Ontario Agricultural College, Guelph, Ont., holds a sale of stock on 13th Sept. next.

Harold Sorby, of Gourock, Ont., has made some excellent sales of imported Berkshires, to Jas. Cole, Lansing, Mich., Jos. Sifton, Wallacetown, Ont., Jos. Redmond, Peterboro, Ont., and others. Mr. Sorby adds: I find the ADVOCATE the best paper I ever advertised in, as it reaches the right class for quick sales.

Mr. Simon Beattie, of Annan, Scotland, has purchased a pair of handsome polled heifers from the Earl of Strathmore.

According to the returns of the inspectors at ports where American and Canadian cattle are landed, furnished to the English Privy Council, there were last year alone 8,721 animals thrown overboard, and 498 were landed dead, while 472 arrived so much injured and exhausted that they were killed at the place of landing. This makes a total of 9,221 animals which, in the space of twelve months, were either lost or seriously injured in the passage across the Atlantic.

John Snell & Sons, Willow Lodge, Edmonton, Ont., are making another importation of Cotswolds and Berkshires. They are expected about the 20th inst.

Breeders and others who desire first-class cuts of animals or implements, either taken before or at the coming exhibitions, would do well to write to this office for terms, &c., giving full particulars of wood cut desired.

E. B. Morgan, Oshawa, Ont., shipped on steamship Cornwall for Bristol, England, on 24th ult., one thousand and one sheep, and next week he ships twelve hundred on the steamship Dominion for Liverpool. He reports sheep this year improving in both quality and breed much better than former years.

Geary Bros., of Bil-Bro stock farm, near London, Ont., are rapidly extending their stock operations. They have recently imported between 100 and 200 Lincoln and Shropshire sheep, and besides have a lot of Polled Angus and draught horses on the way, many of which will soon be released from the quarantine. Their stock is well deserving the attention of intending purchasers. They have a few lots for sale.

Thos. McCrae, Janefield, Guelph, Ont., has purchased 29 Galloways from Messrs. Biggar, Cunningham and others of the north of Scotland. The lot, taken as a whole, says the Galloway News, is probably one of the largest and best lot of pedigree Galloway cattle that has ever gone out of the district. Mr. McCrae has also imported some Polled Aberdeen heifers.

A consignment of Herefords for C. C. Bridges, Shanty Bay, Ont., have just reached quarantine.

#### Commercial.

THE FARMER'S ADVOCATE OFFICE,  
London, Ont., Aug. 1, 1882.

Fine, cool, breezy weather has been the characteristic of the past three or four weeks. Just the weather the farmers want, and they have no doubt made good use of the same.

#### WHEAT.

From the crop reports from all parts of this continent, there is every prospect of an abundant harvest, not only of wheat, but almost every other farm product. To give our readers some idea of the crops in the States, we give below the report of the Agricultural Department at Washington:

"The Agricultural Department, 1st of July report, makes the condition of wheat average higher than any previous July returns, being 104 against 83 last July. The average condition of Spring wheat is 100, against 90 July 1, 1881. Unless the ratio of wheat to straw should be less than usual, or the grain be damaged after threshing, the crop will prove one of the largest grown in the United States. The average condition of the principal Winter wheat States, July, was: Ohio, 101; Kentucky, 104; Michigan, 106; Indiana, 104; Illinois, 105; Missouri, 111; Kansas, 116; Pennsylvania, 100; the Southern States 100 or above; California, 90, and Oregon, 105. The averages of Spring wheat are: Wisconsin, 94; Minnesota, 98; Iowa, 102; Nebraska, 105; Dakota, 98; Colorado, 98; Maine, 101; New Hampshire, 103; Vermont, 94. The wheat harvest in the Southern States had been completed on the 1st of July, was in active progress in Kentucky, and commencing north of the Ohio river, on July 12, the harvest had reached the 40th parallel, and will soon be completed, so far as regards winter wheat.

"The condition of oats is very high, averaging 105; rye, 101; barley, 95. All the cereals excepting corn promise a yield above an average. In corn there is a decreased area, and the condition of the crop was low."

Receipts of new wheat in Chicago and other western grain centres is now quite liberal, and prices are tumbling every day, while freights are going up at the same time. We might remark here that freights are likely to be an important factor in the price of all kinds of produce. They have been unusually low the past year, and are likely to be quite the reverse the coming season. From private estimates of a reliable character, Messrs. C. A. King & Co., of Toledo, put down the total yield of winter wheat in Kansas, Missouri, Illinois, Indiana, Ohio, Michigan and Iowa, at 252,000,000 bushels, against last year's estimates made by the Washington Agricultural Bureau, of 176,471,000 bushels; showing an increase of 75,000,000. The increase in the yield for the State of Michigan alone is set down at 10,000,000 bushel over that of last year. In Canada there is an increase of acreage and the prospects of one of the largest and finest yields of wheat ever gathered by the farmers, especially through the western half of Ontario, while through the eastern portion and the St. Lawrence counties, the crop of spring wheat is reported excellent. The Bureau of Industries for Ontario estimates that Ontario will have a surplus of 20,000,000 bushels. This seems like a very large surplus, and we think it should be accepted with caution. With such glowing prospects is it any wonder that prices are coming down? Farmers must not look for any fancy prices the coming season, and if they can realize anywhere in the neighborhood of a dollar per bushel, they may be well contented.

#### SPRING WHEAT

Where sown is looking well, and bids fair to be a good crop, which is not usually the case when fall wheat is so promising.

#### BARLEY

Is also looking well, and another week or ten days of good weather will secure this crop in the principal sections.

#### PEAS

Have suffered some from the wet weather in June in many sections, still they look well on the whole, and are coming on slowly, which is quite favorable for a good crop.

#### OATS

Are looking well, and the cool weather is very favorable for them.

#### CLOVER.

This crop will be short in consequence of the plants having been heaved by spring frosts, and



the extreme drought of last summer caused last spring's seeding to be almost a failure.

CORN

Is not very promising, the temperature has been too low for it; still with fine, warm weather through August, it will regain very much. Throughout the Western States the prospects in some sections are good, in others very poor, and on the whole are not favorable for more than a medium crop.

APPLES.

The prospects of this crop are not very flattering. The cold, wet weather, together with so much east wind last spring, seems to have blighted the fruit after having set.

CHEESE.

Keeps very steady with an upward tendency. Whether these prices can be maintained through the balance of the season is rather doubtful. With us in Canada, the make is somewhat short of last year up to this time, while in York State it is claimed by some that the make is now in excess of what it was last year, that more cheese has been made through the month of July than same time last year, and that August will have out a considerable percentage over the same month a year ago; while on the other hand there is the high price of beef and pork, and the fact that as yet there has been no accumulation of stock either in New York or Liverpool. These will certainly help to offset the unfavorable points, so that arguments may be considered about evenly balanced. With us in Canada the July make is largely bought up, and is moving off. The make is very fine, as the weather has been all that could be desired. There is one danger, and that is that prices are now getting too high for a healthy consumptive demand, which is a very important consideration, and one which factory men will do well to keep before them when they feel tempted to refuse a good price for their goods, and one which is a long way above the average. 10 1/2 to 11 cents are high figures for July cheese.

BUTTER

Keeps very steady, and the shipments to the English markets have been very light when compared with last year.

FARMERS' MARKET.

LONDON, ONT., July 29th, 1882.

Table with 2 columns: Item and Price. Includes Wheat, Oats, Peas, Corn, Hay, Linseed cake, Flax meal, Rye, Barley, Timothy seed, Butter, Eggs, Hops.

TORONTO MARKETS (CAR LOTS).

Table with 2 columns: Item and Price. Includes Flour, Oats, Barley, Peas, Butter, dairy.

GRAIN AND PROVISION MARKETS.

Table with 2 columns: Item and Price. Includes Wheat, Corn, Oats, Peas, Flour, Superfine, Strong bak., City bags, Cheese, Mixed white, White, Wool, Eggs, Pork, new mess, Lard, Butter, Mess pork, Hams, Bacon.

NEW YORK.

Table with 2 columns: Item and Price. Includes Flour, Oats, Mixed white, White, Wool, Eggs, Pork, new mess, Lard, Butter, Mess pork, Hams, Bacon.

BOSTON, MASS.

Table with 2 columns: Item and Price. Includes Flour, Oats, Mixed white, White, Wool, Eggs, Pork, new mess, Lard, Butter, Mess pork, Hams, Bacon.

CHEESE MARKETS.

Table with 2 columns: Item and Price. Includes Liverpool, Eng., per cable; Little Falls, N. Y.; London, Ont.; Ingersoll, Ont.

LIVE STOCK MARKETS.

Buffalo, N. Y.—Cattle—Good demand at full prices for good; common in fair demand, but 25c. lower; good to choice steers, \$6.85 to \$7.25. Sheep and Lambs—Good demand and prices a shade higher; fair to good clipped sheep, \$4 to \$4.50. Hogs—Firm, and prices \$8.40 to \$8.90.

Montreal, P. Q.—A good demand for cattle at 6 1/2c. to 6 3/4c. per lb., live weight, for good to choice animals; butchers' cattle at from 4c. to 5 1/2c. per lb., live weight. Choice sheep for export are quoted at 6c. Lambs sold well at from \$2.50 to \$5 each.

LONDON AND GLASGOW.

Messrs. A. & T. Tiernan's cable circular furnishes the following report:—

Glasgow—Our foreign arrivals consisted this week of 321 Canadian cattle and 2,165 sheep from Canada, there being no arrivals from the States. We quote trade firm at last week's prices, with prospects pointing towards an advance from present quotations. Our home supplies consisted of 1,010 Scotch and Irish cattle and 5,175 sheep. We quote as follows:—Good American steers, 9d. per lb.; medium American steers, 8 1/2 to 8 3/4d. per lb.; good American sheep, 9 1/4d. per lb.; good Canadian steers, 9d. per lb.; medium Canadian steers 8 1/2 to 8 3/4d. per lb.; good Canadian sheep, 9 1/4d. per lb.

London—There were no arrivals from Canada or the States for this week's market. We quote trade same as last week with quotations unaltered:—Good American steers, 8 3/4d. per lb.; medium American steers, 7 1/2 to 8 1/4d. per lb.; good American sheep, 9d. per lb.; good Canadian steers, 8 3/4d. per lb.; medium Canadian steers, 7 1/2 to 8 1/4d. per lb.; good Canadian sheep, 9d. per lb.

We would advise farmers to examine their wheat, and if there are any signs of Hessian Fly, defer sowing their next crop till late in the season. By sowing wheat late, the brood of flies which appear in the early fall find no plants on which to deposit their eggs, and a year or two results in their extinction. In Michigan a few years of early sowing is nearly sure to be followed by an attack of this pest. When it makes its appearance in the fall, the plants show the presence of the larva by turning yellow, and sheep are at once turned in and the plants eaten down. If sheep are not to be had, and the growth allows it, the field can be mown, and as the insect always lodges high up in the plant this is effectual in many instances. But late sowing is a positive protection against their ravages.

NEW ADVERTISEMENTS.

Ontario Experimental Farm SALE OF LIVE STOCK

SEPTEMBER 13, 1882

FOR SALE.

Shorthorn Bulls and Heifers, Hereford Bull and Heifers, Devon Bull and Heifer, and a Jersey Bull Calf, together with 90 head of Cotswold, Leicester, Oxford Down, Shropshire Down and Southdown Rams and Ewes of various ages; also some superior Berkshire Boar and Sow Pigs—all from recently imported stock.

No reserve whatever, and easy terms of payment. Catalogue after 1st August.

W. BROWN, Guelph, Ont.

FOR SALE.

NEW PORTABLE AGRICULTURAL ENGINE & BOILER

(Haggart make.) NEVER USED. PRICES LOW. Address JAMES ROBERTSON & Co., Metal Merchants, Toronto, or Box 223 London, 197-a

AMBER SUGAR CANE

We are manufacturing MILLS and EVAPORATORS of the most approved American pattern which have given the best satisfaction in Minnesota and Kansas, where they have been used for several years in competition with others.

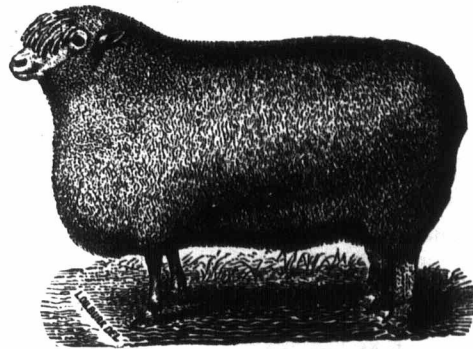
NEW PARAGON SCHOOL DESK!

The BEST IN USE. For illustrated circulars and prices write to M. BEATTY & SONS, WELLAND, ONT.

THE PEOPLE HAVE PROCLAIMED THE CLYDESDALE THE KING OF DRAFT HORSES!



Another Importation just Received. POWELL, BROS., Springboro, Crawford County, Penn. Largest Collection in the World of Clydesdale Stallions, the Best Breed of Draft Horses. Also an importation of choice Percheron-Normans, breeders of Trotting-bred Roadsters and importers and breeders of Holstein and Devon Cattle. Rare individual excellence and choicest pedigrees our specialties, at the same time avoiding animals whose constitutional vigor, energies and stamina have been impaired by high-feeding and over-fattening. Catalogues free. Correspondence solicited. Mention the FARMER'S ADVOCATE. 200-1



Imp. "ROYAL SWANWICK," 1313.

Winner of 1st prize at Chicago.

I Took Sweepstakes for Flock of Cotswolds at Chicago, St. Louis and Peoria in 1881.

100 Choice Cotswolds for Sale

including two-year old imported and home-bred EWES and RAMS.

A lot of extra good yearling Rams and Ewes made up for show, also Lambs.



"WHAT'S WANTED,"

Bred by H. Sorby.

Choice Berkshires a Specialty.

PRICES LOW. WRITE OR CALL.

H. SORBY,

GOUROCK, near GUELPH, ONT.

FREE TO YOU!

A Six-Months' Subscription to a Valuable Paper and a Magnificent Premium! We wish to introduce our great Literary, Agricultural and Family Paper, The Rural Home Journal, into thousands of homes where it is not already known, we make the following unprecedented offer: To any one who will send us Twenty-one Cents in postage stamps to cover cost of postage, packing and labor involved, we will send The Rural Home Journal for Six Months, also an elegant Portfolio of beautiful engravings called "The Art Souvenir," containing eight superb reproductions of genuine steel engravings of American and Foreign Scenery, Pleasing Home Subjects, etc., printed on heavy plate paper, beautifully bound, and forming one of the most charming adornments for the parlor or centre table that could be desired. The Rural Home Journal is an eight page, 23-column illustrated paper, devoted to stories, sketches, poems, agriculture, horticulture, household hints and recipes, ladies' fancy work, wit and humor, news, and everything to amuse, entertain, work, and instruct the whole family. You will be delighted with it, and likewise with the beautiful premium. We make this great offer simply to introduce our paper into new homes, hoping to retain for future years all who subscribe now. Send at once! Remember, we give you the paper and premium free, merely asking the trifling sum of 21 cents to pay cost of mailing and labor. Those who do not take advantage of this offer will throw away a chance of a lifetime. If you will obtain for us a club of five subscribers upon these terms, and send us \$1.05, we will send you, free, for your trouble, either an elegant Butter Knife, or Sugar Spoon, or Pickle Fork, heavily plated with pure coin silver on steel and warranted to wear. Address: F. M. LITTLETON, Publisher, 27 Park Place, New York.



## SAWYER'S Grain Saver THRESHER



### READ WHAT THE FARMERS SAY OF IT:

John Burkell, Rosemeath, Ont.—"Runs easy, light and very steady."

John Beemer, St. George, Ont.—"No time lost, runs all day without stops."

Puller & Charters, Brampton P. O., Ont.—"Works well in all kinds of grain, wet or dry."

C. Nelson, Burn-Brae.—"Second to none; stands at the top over all threshers."

Jesse E. Furry, Lowbanks, Ont.—"No dust; no breaks; no stoppages."

John Sigworth, Harrowsmith.—"Threshes clean without wasting grain."

Alcock & Fleming, Ravenna.—"Beards barley, wet or dry, perfectly."

C. B. Taylor, Trenton.—"Works splendid; gives universal satisfaction."

Anglin Bros., Brewers' Mills.—"Runs and feeds easy; is superior to all others."

Address us for Illustrated Catalogue of

**Threshers, Clover Mills,**

**Horse Powers, Reapers**

**and Mowers.**

**L. D. SAWYER & CO.,**

**HAMILTON, ONT.,**

**CANADA.**

178-1p

## LUMBERS' BOTANICAL REMEDIES



**LUMBERS' AGUE CURE**

A never-failing cure for Intermittent Fever, or Fever and Ague, in all its stages. And it will also be found invaluable in all nervous and bilious diseases.

## LUMBERS' LIVER PILLS

These remove obstructions of the Liver and act SPECIFICALLY UPON THIS ORGAN, changing its secretions. They are excellent in all affections of the Liver, generally removing the ail in the side and shoulder in a short time.

## LUMBERS' SURE CURE FOR PILES

A Speedy and Permanent Cure for this Painful Malady.

These Pills have the very highest reputation with those that have used them.

For Sale by all Principal Druggists

Address—

**WM. LUMBERS, Sr.,**

SOLE PROPRIETOR,

**288 Carlton St., Toronto, Ont.**

1882

## Grand Trunk Railway

OF CANADA.

TRANS-CONTINENTAL ROUTE.

OVER

1300 MILES UNDER ONE MANAGEMENT

—TO—

## MANITOBA

AND THE

**NORTH - WEST TERRITORIES!**

PASSENGERS to the rich wheat-producing lands of Manitoba, and the Agricultural and Mining Districts of British Columbia, will find the cheapest and best route via the Grand Trunk Railway of Canada.

THIS IS THE

**LEGITIMATE ROUTE**

TO THE

## NORTH - WEST!

affording a continuous trip and making direct connections with the steamer lines from Sarnia and Collingwood, and by rail through to Winnipeg, and all points in the North-West Territories.

**The Grand Trunk Railway,** with its powerful and direct connections, and extensive and continuous through line, is the favorite route, and can be relied upon. The very best rates will be quoted for freight, passage, live stock, effects and extra baggage, for emigrant parties; also for individual emigrants. It has deservedly gained the reputation of being an exceptionally desirable route for bodies of emigrant settlers. Special attention has been paid to this business, both as regards cars, train service, accommodations en route, and instructions to employes to treat parties and holders of our tickets with courtesy and attention.

### To Sportsmen and Excursionists

Tickets will be issued by all rail, or by rail and the Lakes, to the various points in the North-West during the sporting season.

Apply for full information to agents at the Office of the Grand Trunk Railway.

JAS. STEPHENSON, JOS. HICKSON,  
199-1 Gen'l Pass'r Agent, Gen'l Manager.

## BIL-BRO STOCK FARM

## GEARY BROS.,

LONDON, ONT.,

IMPORTERS AND BREEDERS OF

**Lincoln & Shropshire Sheep,  
Poled Aberdeen, or Angus,  
and Hereford Cattle.**

ARRIVED at Quebec, ex. SS. Oxenholm, June 19,

**6 Polled Aberdeen, or Angus**

**Bulls,**

**17 Polled Aberdeen, or Angus**

**Heifers, 3 with Calves at foot,**

**2 Hereford Bulls, 1 year old,**

**1 Hereford Heifer, 3 years old,**

**with Calf at foot,**

On sale in quarantine at Quebec.

Ex. same ship,

**110 Lincoln Rams and Ewes,**

**82 Shropshire Rams and Ewes,**

On sale at our farm, 3½ miles north of London.

All the above stock have been personally selected by one of ourselves from the flocks and herds of the most noted breeders in Great Britain.

Pedigrees furnished with all stock sold. Catalogues on application.

## GEARY BROS.,

(Successors to John Geary.)

P. O. 132, LONDON, ONT.

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## MANITOBA vs. MANITOULIN ISLAND

(LAKE HURON.)

We cannot offer you a balmy day of 40 degrees below zero, or a summer frost, or a blizzard, or a flood, or a grasshopper plague every few years, or the potato bug, or alkaline water to drink, like Manitoba; but we can offer you unequalled farm land, magnificent natural pastures, cash markets, good schools, good water, good fishing and no potato bugs.

**NEARLY 100 IMPROVED FARMS FOR SALE**

AT REASONABLE PRICES.

Send 6 Cents for Descriptive Catalogue.

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199-c BOX 9, MANITOWANING.

## THE ONLY BEST!

(Licensed by leading Fire Insurance Companies.)



## THE "TRIUMPH" ENGINE.

THE LEADING SEPARATORS

Abell's "Perfect Paragon"

(with additional improvements for 1882.)

Abell's "Vanquishing Vibrator,"

and the famous

"Woodbridge Champion."

## TREAD-POWER THRESHING MACHINES

One and two horses.

9 Nine Gold Medals won and in my possession.

Send for Catalogue and Pamphlet.

In writing name this paper.

**JOHN ABELL,**

Woodbridge Machine Works,

199-c WOODBRIDGE, ONTARIO, CANADA.

## GRAND DOMINION

—AND—

## 37th PROVINCIAL EXHIBITION

Under the Management of the

Agricultural and Arts Association of Ontario

TO BE HELD AT

**KINGSTON**

—FROM—

18th to the 23rd September, 1882

**\$20,000**

OFFERED IN PREMIUMS AND DOMINION MEDALS

Entries must be made with the Secretary at Toronto on or before the undermentioned dates,

viz.:

Horses, Cattle, Sheep, Swine, Poultry, Agricultural Implements, on or before Saturday, Aug. 19.

Grain, Field Roots, and other Farm Products, Machinery and Manufactures generally, on or before Saturday, August 26th.

Horticultural Products, Ladies' Work, Fine Arts, etc., on or before Saturday, September 2nd.

Prize Lists and Blank Forms for making the entries upon, can be obtained of the Secretaries of all Agricultural and Horticultural Societies and Mechanics' Institutes throughout the Province.

CHARLES DRURY, HENRY WADE,  
President, Crown Hill. Secretary, Toronto.

200-1

## Western Fair

LONDON,

SEPT. 25, 26, 27, 28 & 29

**\$15,000.00 IN PRIZES**

**OPEN TO THE WORLD**

Large prizes will be given for trials of speed in the horse ring, which has been enlarged to a half-mile track.

Five Indian bands will compete for prizes.

Exhibitors will address J. B. Smyth, Secretary, London, Ont., for Prize Lists and any other information required.

JOHN B. SMYTH, JOHN PLUMMER,  
Secretary. President.

200-1

## Build 4 Sizes Fire-Proof Champion Engines

Represents

No. 5 20-Horse Power

FIRE-PROOF

**CHAMPION**

SAWMILL

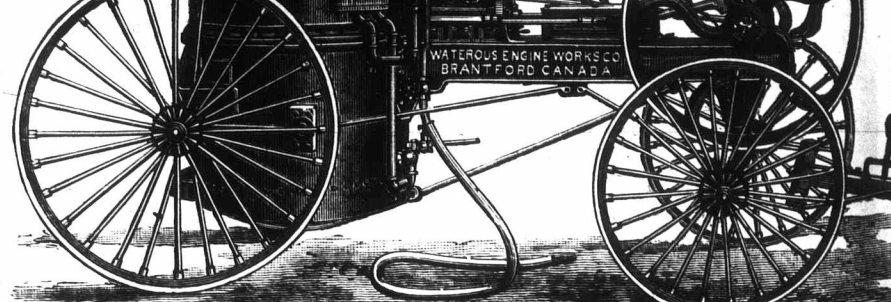
**ENGINE**

WITH

**SECTIONAL**

**SAFETY**

**BOILER.**



The sectional safety boiler is manufactured expressly for the

"North West" trade. This boiler is so arranged that it is readily taken apart in section

enabling purchasers to clean thoroughly every part of it and prevent burning out

We know from experience this is absolutely necessary with the alkaline waters of the great

Western prairies. Largely used by the Pacific Railway Company and all the large Col-

onization and Rancho Companies.

ADDRESS WATEROUS ENGINE WORKS CO., BRANTFORD, CANADA.



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# PARIS GREEN!

MANUFACTURED BY

## WILLIAM JOHNSON,

572 William Street, Montreal, P. O. Box 926.

This GREEN will be offered to the public during the season in  
**1, 2, 3, 4, 5, 7, 10 and 25 pound TINS**  
having a thin cover, which can be easily removed with a penknife.

### THE ADVANTAGES

of procuring PARIS GREEN in these tins will be apparent to all, as thereby very much of the annoyance and danger attending the weighing of this article out of large packages will be obviated.

### TO FARMERS

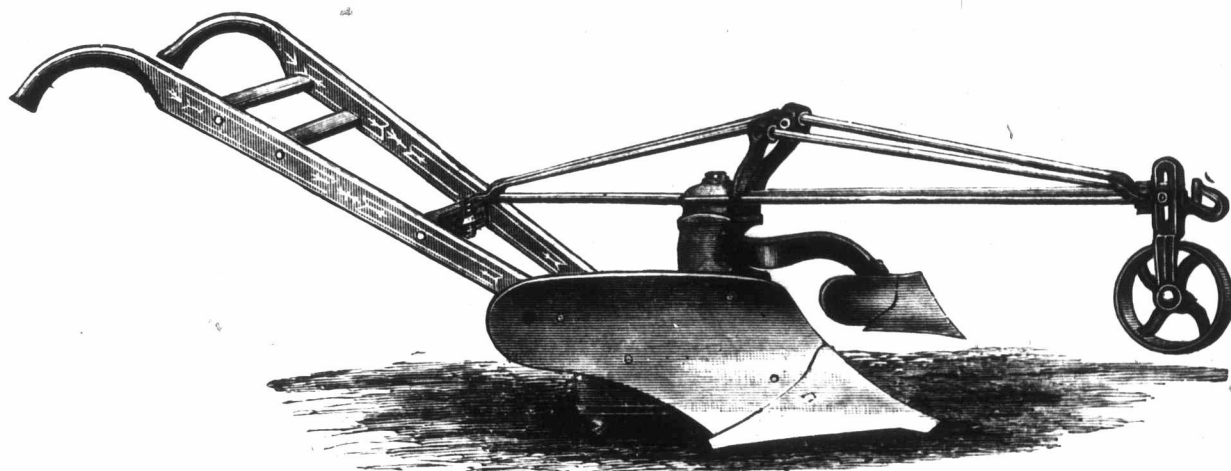
and all requiring to use it as a bug poison these tins are ESPECIALLY ADAPTED.

To be had from all Dealers.

198-c

## THE "SEEGMILLER" TRUSS BEAM PLOW!

Flexible Wheel, Universal Standard Jointer Attachment.



This Celebrated Plow is made in Canada. It combines all the advantages of the best American chilled plows, with additional improvements. The material used in their construction is the best made; they are constructed by the most skilled mechanics; their durability and efficiency are unsurpassed. The thousands of testimonials from those using them are such as to satisfy all that this is the plow for the million.

I desire to inform the farmers of Canada that, although I am about to remove to the United States, to take charge of the Benton Harbor Plow Works, Benton Harbor, Michigan, I shall still retain an interest in the Seegmiller Plow Works, at Goderich, Ont. The Benton Harbor Plow Works have been erected for the special purpose of manufacturing the "Seegmiller" Plow to supply the demand which has arisen from its introduction among the farmers of the West. The manufacture of the "Seegmiller" Plow will be continued at the Goderich Factory by the firm under the style of Seegmiller & Co. They have already at this factory manufactured 2,500 plows for this season's trade, and are continuing their manufacture at the rate of 600 per month. However, the demand is increasing, and to meet this increasing demand they are enlarging their premises and hope shortly to be in a position to supply the Canadian trade. They will also continue to manufacture shares of the best charcoal iron for the "No. 40" and "E 2 Oliver" Plows, unequalled for wearing qualities. Farmers desiring the "Seegmiller" Plow, or repairs of either it or the "Oliver No. 40" or "E 2," and who are not near an agency, can be supplied by addressing Seegmiller & Co., Goderich, Ont. To such persons a reduction in the price of shares will be made if they are ordered by the dozen. Where Seegmiller & Co. have no agents, for \$16 they will send a Seegmiller Plow to any farmer in Ontario, Quebec, New Brunswick, Nova Scotia or Prince Edward Island. Parties willing to act as agents will do well to correspond with Seegmiller & Co. These plows sell very readily wherever introduced, and the discounts to agents are liberal. I desire to thank my numerous customers for their patronage, and also the many intelligent farmers and agents who have assisted me in bringing the "Seegmiller" Plow before the public, and who, by making manifest its merits, have contributed to gain for it the favor with which it is so universally regarded.  
SAMUEL SEEGMILLER.

Plows sent, freight prepaid, to any firm in Ontario, Quebec, the Maritime Provinces and Manitoba. Address—

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MINION MEDALS  
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President.

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D, CANADA.



Democrat



WHEAT

**Democrat Wheat**--The best Winter Wheat grown in Canada (imported by W. Weld 2 years ago) and has proven to be the hardiest, most productive and best milling wheat grown, and not subject to blight or rust, yielding from 35 to 50 bushels per acre, and is unquestionably the best wheat in Canada to-day.

Every farmer should secure Democrat Wheat at once. Be Sure and order early.

PRICES--1st quality, imported stock, \$3 per bush; 1st quality, home grown, pure stock, \$2.25 per bush, five and ten bushel lots, \$2.00 per bush; 2nd quality, home grown, \$1.75 per bush, five and ten bushel lots \$1.65 per bush. Bags twenty-five cents each.

Following varieties on hand:--Egyptian, Fultz, Finlay, Scott, Clawson, &c. Prices on application. Also have just received a fine stock of Orchard Grass, Kentucky Blue Grass, Meadow Fescue, Red Top, &c., &c., for permanent pastures. Circular with full particulars on application. Address,

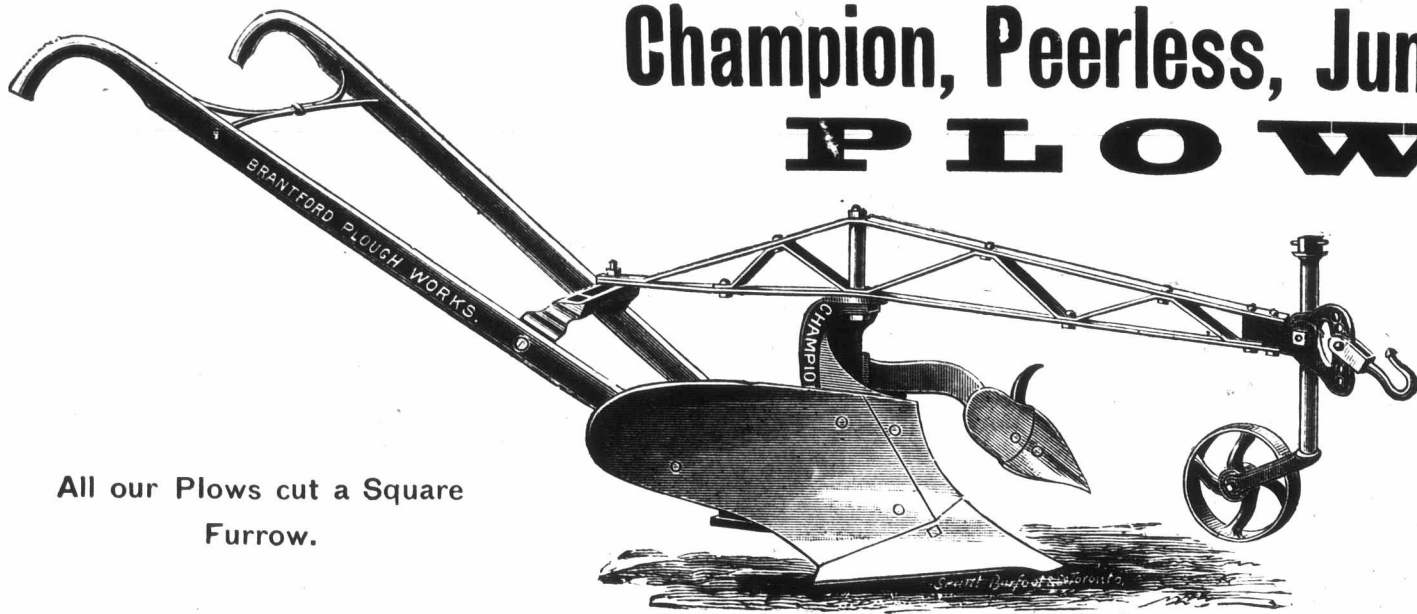
PEARCE, WELD & CO., Seed Merchants, London, Ontario.

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FARMERS PATRONIZE CANADIAN MANUFACTURE.

FOR YOUR STUBBLE AND FALL PLOWING BUY THE CELEBRATED

## Champion, Peerless, Junior OR Union P L O W S



All our Plows cut a Square Furrow.

Warranted Cheaper, Better and Far Superior to the South Bend Plow for the Canadian Farmer, both in Material Style, and Finish, and fully equal in Durability.

"CHAMPION" TRUSS BEAM PLOW, Manufactured by

**JAMES G. COCKSHUTT,**

Office and Works South Market St., BRANTFORD, ONTARIO.

N.B.--See these Plows at the Industrial Exhibition, at Toronto, from 5th to 16th Sept., in south wing Agricultural Implement Building, second space, west side.

A LARGE IMPORTATION

OF  
**COTSWOLD,  
OXFORD DOWN,**  
AND  
**SHROPSHIRE DOWN  
SHEEP**

JUST RECEIVED.  
A few of each kind and sex for sale.  
**WM. M. MILLER,**  
CLAREMONT, ONT.  
Pickering Station, Grand Trunk Railway.

SHROPSHIRE BREEDERS.

**WM. MAYOR & SON,**  
Whitevale P. O., Ont.  
**WM. HERON & SON,**  
Ashburn P. O., Ont.  
**WM. M. MILLER,**  
Claremont P. O., Ont.

The above breeders live in the same locality, and all three flocks can be easily seen in one day.  
**A FEW IN EACH FLOCK FOR SALE.**  
Correspondence solicited.  
PICKERING STATION, Grand Trunk Ry.

**Windsor Hotel**

PRINCESS STREET,

**KINGSTON, ONTARIO.**

Centrally Located.  
First-class Billiard Parlor.  
Modern Improvements.  
Good Sample Rooms.

TERMS MODERATE.

**MARTIN O'BRIEN, Proprietor**

FARMS FOR SALE

In Western Ontario a number of choice Farms. Full description list sent on application. Correspondence invited, full information given, and on personal application at my office plans of the townships shown, enabling strangers to see the position of properties and their proximity to towns, railway stations, &c. Farms with acreage to suit every one. Send to

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Real Estate Agent

Land Office, 98 Dundas street west, London, opposite to the City Hotel, for list of farms for sale.