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AND HOME MAGAZINE

VOL. XVIII.

LONDON, ONT., JANUARY, 1883.

No. 1

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

FOUNDED 1868

THE FARMER'S ADVOCATE
—AND—
HOME MAGAZINE.

WILLIAM WELD, Editor and Proprietor.

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

TERMS OF SUBSCRIPTION:

1. \$1.00 per year, in advance, postpaid: \$1.25 in arrears. Single copies, 10 cents each, postage prepaid.
2. Subscriptions can commence with any month.
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Will be furnished on application, and manufacturers, seedmen, stock breeders and others will find this journal an unrivalled advertising medium.

Address—
THE FARMER'S ADVOCATE, LONDON, ONT., CANADA.

"Jan 83."

Our subscribers whose address label shows the above need not be reminded that their subscription expired with Dec. No., '82. An envelope and subscription form was sent with each December number, and those whose subscriptions have expired will kindly forward their renewal as soon as possible.

Subscribers need not expect to see their remittances credited on the next paper if they do not forward before the 24th; but if they are not properly credited on the March No., be sure and report immediately, and state date of mailing their remittance.

Carefully observe rules 3, 4 and 5, above. With our addressed labels receipts are no longer necessary or sent.

Show your paper to your friend who is not yet a subscriber, and with your renewal for 1883 send along two or three new subscribers at least.

Answering Inquiries.

Each month we receive letters, frequently from those who are not readers of THE FARMER'S ADVOCATE, asking questions about the care and treatment of live stock, &c., to which replies by mail are requested. While we are always pleased to have our readers make these inquiries, and will cheerfully answer through THE ADVOCATE for the benefit of our subscribers, questions that are of general interest on the breeding, feeding and treatment of live stock, we should not be expected to reply by mail.

The new year has been celebrated by us in a most hearty manner, as, owing to the great efforts of our many friends, THE FARMER'S ADVOCATE begins 1883 with the greatest number of subscribers ever on our lists.

REMARKABLE CLUBBING COMBINATIONS.

The club rates advertised in the November and December numbers are now cancelled for the season, and subscribers will be guided by this notice.

Our Monthly Prize Essay.

Our next prize of \$5.00 will be given for the best method of eradicating and preventing the growth of Rag Weed. The essay to be handed in before the 20th inst.

We will give a prize of \$5.00 for the best essay on "The advantages and best results to farmers from planting forest trees." The essay to be handed in by the 20th of February next.

Our prize of \$5.00 for the best essay on "The best class of horse to breed for farm and general purposes" has been awarded to Alex. Connor, of Springfield, Ont.

In answer to many correspondents, Mrs. J. L. Smith's essay upon cooking for harvest hands was No. 5.

Personal.

Pearce, Weld & Co., seed merchants, of this city, are not in any way connected with this journal, and all communications, &c., for them should be sent direct, and not in our care. Mr. Henry Weld was formerly on the FARMER'S ADVOCATE and is now a partner with that firm, but the editor and proprietor of this journal has no interest whatever in the seed firm. This has previously been mentioned in our columns.

To help your canvass send for a sample copy for a friend, or a few for your own use, and carefully read our Premium List.

Bound volumes of this journal for 1882 are about ready and will be mailed, post-paid, to any address in Canada or the United States for \$1.50, a useful and handy volume, neat and well bound, and at a most moderate cost. Send your orders at once, as only a limited number are for sale at the above price.

We have exhausted our stock of "The Offer" and "The Accepted," and the publishers of these crayons have just informed us that they are not able to supply any orders for several months, as new lithographs will have to be made, so that we intend to send "Yes or No," by Millais, to those who have chosen either of the above, which we hope will meet their satisfaction.

The months of January and February have always proved most excellent, if not the best, for obtaining new names, so that during the next two months the kind friends who have done so well, and those who have not enjoyed that privilege so far, will make every effort to further increase the character and usefulness of THE ADVOCATE by adding as many new subscribers as possible. We heartily thank you for your generous assistance and wish you all a happy and prosperous New Year.

Kind Words.

"THE ADVOCATE is a welcome guest with us. We read it from the first page to the last advertisement. We find it ever fresh."
Durham, N. S. H. M. K."

"I like THE ADVOCATE well, and although I have given up farming I don't intend to be without it, for I must have reading matter, and there is no paper I can get so much profitable reading from as it. And it is my impression had I had the privilege of it 20 years ago I could have run my farm to far better advantage. I hope you will pardon the liberty I take, for I think it is my duty to say a word to strengthen the hands of the man who says and does so much to help the farmer. Your paper, I must say, is rightly named THE FARMER'S ADVOCATE, indeed. Yours truly,
Meaford, Ont. J. R."

The FARMER'S ADVOCATE contains more agricultural information than all the weekly editions in Ontario. Every farmer should subscribe. G. H. Cromarty, Ont.

"I have taken THE ADVOCATE for the past six years and consider my money has been profitably spent. Your paper is improving every year. It is truly the farmer's friend, and every farmer should read it."
Montague Bridge, P. E. I. J. D. D."

Do not fail to send me your ADVOCATE; I do not see how I can get along without it. I find it good authority to help a man out of every little difficulty which all farmers are heirs to.
Chillewack, New Westminster, B. C. H. K.

With pleasure I renew my subscription. "Farming for boys" is worth the dollar. No farmer can do without an agricultural paper and keep abreast with his profession, and THE ADVOCATE is certainly in the advance column in the Dominion.
Berwick, N. S. J. S.

I like THE ADVOCATE well, as it is very instructive and interesting, also giving new ideas and new suggestions; in fact I would not be without it on any account.
Londesboro', Ont. T. M.

I am very well pleased with THE ADVOCATE; it certainly is a very practical, common sense work, and should be in the household of every farmer.
Logan, Ind., U. S. A. J. H. S.

I can say without flattery that your paper is the par excellence of agricultural journals, and although we take several papers, we always find it the most welcome of any upon our table. Its high tone and the bold stand you are taking in the interest of agriculture, should and will, secure it a place in every intelligent farmer's home, and in my rambles about the country, wherever I see thrift, taste or industry, THE ADVOCATE is as a general rule sure to be found. May every year add to its numbers, usefulness and excellence.
Lansdown, Ont. R. V. K.

The above are from among the thousands of such letters we have received during the past month. Such kind words do indeed bring increased responsibility to us, but we will earnestly and conscientiously strive to merit the same in the new year, and to improve by our experience.

Editorial.

On the Wing.

THE CANADIAN FAT STOCK EXHIBITION.

The principal fat stock exhibition of Canada has been established in Guelph. It has been in existence for some years, and has been established by the farmers in that locality. It is the fruit of the fat stock market that has been in Guelph over twenty years, and has become renowned as the best in Canada. Buyers have been attracted for the purchase of the best meat, not only for the cities of Canada, but for shipment to the British, and even the United States markets. Guelph has long been celebrated for the large number of really good breeders and good feeders of farm stock in the surrounding country.

We should estimate that about one thousand head of fat cattle and sheep appeared at this market. We believe that every animal offered for sale, whether on the market or otherwise, was disposed of at good prices, some of the prize animals realizing 13 cents per pound. Of course this price was only paid for prime, choice show animals. Large lots were sold at 6 cents per pound, while a few inferior animals only brought 4 cents per pound.

The exhibit of fat stock took place in the Drill Shed, which was fitted up for the occasion. It makes a good, convenient, comfortable place for the exhibition, and at a very trifling expense it might be made capable of accommodating twice as many visitors. The attendance was really good, and although the prizes were not large, the number of animals brought out proved the satisfaction of the exhibitors.

One great reason for the popularity of this exhibition and this market is because it has been established, conducted and maintained by the practical farmers of the locality. Fair, honest awards have been given by the judges, such as have given the farmers confidence. We heard no complaints, which is a very uncommon thing for us, as we have become so used to them from exhibitors at our Provincial and other large exhibitions. See account of the Chicago exhibition in our last issue.

We congratulate the people of Guelph on their long established, excellent cattle market, and on their fat stock exhibit, and would strongly advise them to continue their exhibit, guard their own interests, and keep the management in their own hands. They can see the results of allowing exhibitions to fall under Government control, by referring to the Dairymen's Association. It was commenced by the farmers around Ingersoll. They had an excellent, useful and beneficial organization until they received Government money; from that time dissatisfaction commenced, and this day Ingersoll has to regret the loss of its offspring, and to mourn over the deplorable misappropriation of the funds nominally granted to benefit the dairy interest.

Mr. Hood, of Guelph, was the largest exhibitor of fat sheep; he carried off far more prizes than any other exhibitor in fat sheep. Some of his stock, we understand, had been purchased from other feeders. This plan should be discouraged, as it introduces the speculative system into our exhibitions, to the detriment of the plain, practical farmer, as a good judge can run around the country and select the best fattened animals or even import them.

Would it not be well for the encouragement of the breeder and feeder to award the highest prize to the breeder and feeder of any animal, and reduce the prizes say 25 or 50 per cent. on all animals exhibited that were not fed by the breeder? The

exhibitors of large lots of poultry have for years been in the habit of showing purchased and borrowed birds, to the injury of the real breeder. We should aim to encourage the breeder, rather than the speculator. Mr. Hood exhibited many very superior animals that were bred and fed by himself; particularly noticeable and meritorious were several cross-bred sheep, showing very distinct marks of improvement.

Legislative Agriculture.

Since issuing our December number we have noticed the political, and political-agricultural papers, teeming with fulsome praise of acts done and great promises for future good to be done by further grants from the public exchequer. We would be much pleased to support any measure if it could be shown that it was really intended to benefit the farmers. But we deem it our duty to look to the past as well as to the future, and a very important future presents itself, which should be discussed—as whether the Government money has been expended for the injury or benefit of farmers? or whether more good or more harm has been done by it? We see the petitions sent in to abolish the grant to the Provincial Exhibition. If that exhibition had been doing the good it ought to have done, no such petitions would have been sent. The question arises, Why are these numerous petitions sent in from such influential bodies as the County Councils of Ontario? Simply because the money has been misapplied, and corrupt practices have caused such disgust against the once lauded Provincial Exhibition. Never was so little good done; never has there been such irreparable injury done to the farmers as during the existence of the Model Farm. That was its first name; now it is called the School of Agriculture. The farm is naturally unfit for tests; it is distant from a station; and is a curse to the surrounding country, being filled with Canada thistles, which spread their seeds; the road around the farm was so thick with them that the inhabitants desired to compel the Government to have them cut, but the Government were not liable for the taxes for cutting thistles, as farmers are, so the thistles went to seed. The new buildings erected are not put up near as well as the old ones were. They evince neither artistic skill nor convenience, but are a conglomerated mass of ill-constructed and in many cases useless buildings. They have not the order, neatness, design or comfort that may be found in many farmers' establishments; in fact, they stand as a monumental disgrace, rather than as pillars of honor.

The reports issued from the Model Farm try to show that it will not pay to feed beef cattle, and yet practical farmers make it pay. The dairy reports have been pronounced unreliable, and as for their seed report, it has been worse than incorrect. This last year we saw a crop of hay in one field; the greater part would not yield over three-fourths of a ton, and much of it would not exceed half a ton to the acre; while in an adjoining farmer's field fully two tons were being cut per acre.

We attended at the last stock sale; a farmer wished us to purchase an animal, if suitable. We found the stock not at all equal to that of many other breeders; in fact, many expressed their utter disgust with much of it. Despite this, the first Shorthorn set up was sold at what experienced breeders said was about double its value: it was a coarse white heifer.

Perhaps the most attractive features about the place are the flowers. They looked well and were much admired by those farmers who came from the north; but those who had really seen floriculture, merely passed them by as being principally attrac-

tive by the large space devoted to them. We went to the greenhouse and asked to be admitted. The keeper at the door said that no person was to be admitted that day, because the Grangers had stolen so many of the plants.

The first Manager of this Model Farm was an American. The Government found it necessary to give him \$1,500 to flee the country. The Rev. F. W. Clark officiated for a time, but that would not do. Another Professor was employed, but he became so disgusted that he jumped into the river and tried to drown himself. Mr. Johnstone was next engaged, but political agriculture suited him better than practical agriculture, and he can be often heard on the platform or in the political papers. Mr. Mills and Mr. Brown now hold the fort. Mr. Ballantine's dairy, which was erected on the ground, has not been of much service except to the contractors. The unity, strength and utility of the Dairymen's Association have been destroyed by him and his co-operators; they have rather endeavored to suppress information regarding the dairy interest than encourage it, and now more money is to be asked for under the name of aiding dairymen.

The narrow sphere of utility or profit derived from the annual grant to the fruit growers also shows this. It has been utilized for the benefit of a few rather than the good of the whole. For instance, any one may go on the Model Farm at Guelph, and see the most miserable specimens of ornamental trees that have been planted there—stunted, ill-shapen trees, purchased, perhaps, from a few pet individuals. They are certainly a disgrace to the name of a Model Farm. They have not been purchased from our best and most honorable nurserymen. Most probably they will have them pulled out before next fall, after these strictures are read; but we would ask a fair inspection of them at the present time, for with the exception of the Austrian pines and the fruit trees we doubt if ever such an inferior display could be found on this continent for such an outlay. Perhaps this has been done by the very parties who ask for and wish to control an anticipated special grant for orchard culture. There are many small farmers who can show better culture at much less cost.

We have no hesitation in saying, and without the fear of contradiction by any unbiased and truthful person, that the moneys granted to the Provincial Board, to the Veterinary College, to the School of Agriculture and for the Agricultural Commissioners' report, and its printing and circulation, have all been manipulated to a great extent for the benefit of partisans, and although some good may have been done, the interests of those conducting private enterprises have been injured; and the grants that have been given, with the intention of benefiting agriculture, by many Members of Parliament, have, in fact, often tended rather to its injury. We will give one instance: Mr. P. R. Lamb, of Toronto, has a highly beneficial establishment in that city from which he has been supplying Canadian farmers with very valuable fertilizers made from bones and other refuse that was being wasted. He was compelled to go before the Commission; his accounts were garbled, and such strictures were made on his manufactures as were most injurious to him. No doubt much useful information is supplied, but much injury is done by it and its manipulators, and it must redound to the disgrace rather than to the honor of our country, when thoroughly sifted. For the honor of our country we hold that favoritism, in the issuing of such a book, should be forgotten.

The unsatisfactory position in which our Provincial Board, the Herd Book, the Model Farm

and the Dairymen's Association now stand, should be sufficient to induce every legislator to enquire the reason, and what can be done to improve their position and utility, rather than the vain attempt to expend money and time in trying to justify political misdoings.

It is much to be regretted that some people do not duly consider before acting or speaking. Many condemned us because we exposed much of the mismanagement of the old Board of Agriculture and Arts and their management of the Provincial Exhibition. They considered we were writing for its destruction. Our desire was to expose the errors, so that more good might have been done. Some consider that we have written for the destruction of the Model Farm; but such has not been the case. We have written that good might accrue to the farmers from the noble grant given to us for our benefit. Our aim has been and still is to secure more good and less injury by the expenditure, and that the money shall not be misappropriated. We ask for fair, reasonable arguments. We do not approve of those who lavish fulsome praise on everything, and can not or will not look on both sides and try and give fair accounts. Far too many look on the agricultural expenditure as a party movement. We should know no party in our agricultural advancement, except the interest of the farmers.

The fact is this—the whole Government grant to agriculture has been expended more for the benefit of partisans than for farmers, and it will continue to be so until some Member of Parliament comes forth openly and fearlessly and asks for facts and figures, and uses his influence and power to advance the interest of the farmer. We believe Messrs. Mowat, Meredith and Wood all wish to act more justly for the farmers, but that the strong party feelings and urgent demands of unprincipled hangers-on prevent proper steps being taken.

Government Creameries.

The low repute in which Canada butter is held in the British markets has set on foot a plan to permanently establish creameries in different parts of Ontario, to be maintained at Government expense. We cannot look with favor upon such a plan, as we are satisfied that after their first novelty wore away the residents of the particular localities in which they would be situated would take little or no interest in them, and persons residing at a distance would not attend, therefore their usefulness would be gone. What, in our opinion, would be a better plan, would be to utilize the existing dairy building at the Model Farm(?) at Guelph, and have a travelling dairy after the plan of the one under the auspices of Canon Bagot in Ireland, the staff of which is a superintendent, two dairy maids and a laboring man. These could visit all parts of the province during the summer months, at the request of County Councils or Agricultural Societies, and being provided with a sufficient quantity of milk, could give practical instruction in butter-making. These meetings would be attended not only by the farmers but by their wives and families. After the summer season was over the staff could return to headquarters at Guelph, where there ought to be no lack of milk, and give a course of lectures extending over the winter months, which could be attended by those desirous of further instruction or who had not an opportunity to attend the school when in their locality. Such a plan as we submit would be of far greater benefit to the province and at a much less cost than establishing three permanent creameries at different parts of the province. We trust should such a scheme as we propose be adopted,

that the most suitable, practical man will be appointed without reference to his political opinions.

If it is considered advisable to establish a creamery or creameries at the public expense, then we trust that the thing will be thoroughly and impartially discussed before any definite plan is decided upon.

Agricultural Societies.

The annual meeting and election of officers of the Provincial and Township Agricultural Societies takes place during this month. From observations we are fully convinced that the most successful exhibitions are held in the townships, where personal feelings are not allowed to predominate, where all can bury partiality and unite for one grand and good object, that is, to make their exhibition a good one and to act fairly and honorably to all.

We would strongly advise the selection of practical and unbiased men as your officers, men known best for their honorable dealings and their interest in agricultural affairs. All should attend the meetings and not be afraid to express yourselves if you have any improvement to suggest.

Manitoba Letter.

FROM OUR OWN CORRESPONDENT.

West Lynne, Dec. 6th, 1882.

Nothing of importance has transpired in the farming community for some time past; farmers have been busy threshing and preparing for winter. Disallowance and election matters are causing some excitement at present, and the political blanket is kept quite warm. The snow which has fallen during the last ten days has made very good sleighing all over the country, causing the volume of trade at this point to increase very rapidly, and large quantities of grain have been marketed. Mr. Long, the energetic buyer for Livingston Bros., of Baden, Ont., bought over 6,000 bushels of flax the past week, paying for the same 80 cents per bushel. The price of wheat has had a downward tendency, No. 1 Fife selling at 75 cents, soft kinds not much wanted, and hard to dispose of at any price. Farmers as a rule are hard to turn from a beaten path, and instead of sowing dark Fife last spring, as requested by the prominent wheat buyers, a good many sowed soft kind, and are now receiving a very expensive lesson as regards the grade of wheat suitable to this country, and no doubt the sowing of dark Fife will be more general this season. It should be the aim of every farmer to sow the kind that is the most in demand and will command the highest market price, providing that the soil he cultivates is adapted for it; and it is a settled fact the soil of this Province is not surpassed for producing wheat of a fine quality for milling purposes.

Threshing is still delayed in some sections, and if the weather does not continue fine a large quantity of grain will have to remain unthreshed until spring, which will be a great loss and inconvenience to many. Farmers have not been able to get threshers to do their work in due season, and a good many that raised large crops have been compelled to buy threshing machines for their own use. Farming the present year that is rapidly drawing to a close is likely to be fairly remunerative to farmers, although a good many are complaining about the low price of wheat compared with the high price of labor, yet on the whole there is no reason to do so, for if the price of wheat is low all other farm produce is bringing good prices, and

those who have not gone exclusively into wheat growing, but have followed a mixed husbandry, are likely to be as well repaid for their labor as in any previous year since the settlement of the Province.

A few car loads of very good horses have arrived lately from Ontario, keeping the supply equal to the demand, and dealers are complaining of slow sales and small profits, although they are asking from \$450 to \$600 a pair. One dealer from the county of Oxford informed me that horses are getting so scarce in Ontario that it took him three months to collect the last car load he shipped to this Province, and thinks it will be difficult to find enough to supply the spring trade.

The General Purpose Horse.

PRIZE ESSAY, BY LEONARD REXOCANN

MR. EDITOR.—In writing this essay we take it for granted that we are expected not only to say what particular class of horses is, in our opinion, best adapted to general purposes, but also to give some hints that might help the Canadian farmer, with his limited means of obtaining well-bred mares, and, with the stallions within his reach, to breed and rear the best class of general purpose horses.

To be successful in any business requires a thorough knowledge of the goods one is handling; and to become a successful horse-breeder one should become a judge of horses; with a natural taste for the work and a good deal of attention given to it, a farmer will soon become educated in horseology.

An old country dealer has said that the American general purpose horse is a "purposeless" horse. We do not agree with him. We know of no finer animal than the model general purpose horse, who has many representatives in Canada, and would have many more were it not for the haphazard, chance breeding of too many of our Canadian farmers.

With his clean, intelligent head, arched neck, sloping shoulders, prominent breast, short back, well sprung ribs, plump barrel, wide, thin legs, and high, hollow feet, of blocky build, from 15½ to 16½ hands high, and weighing all the way from 1,100 to 1,500 pounds—he is a draught horse, a carriage horse, and a roadster combined. He is the horse above all others for moving a load at a rapid rate. In other words he is the farmer's horse. How are we to get him? To begin with, when you get a first-class general purpose mare do not sell her. If she is deficient in any point, select a stallion good in that particular, or better yet, one whose colts are good in that particular. Always in selecting animals for breeding purposes, look more to their offspring than to the animals themselves. Providing they have never produced any, look to their ancestors as well as to themselves.

Avoid choosing a stallion because he is low priced, and never select one simply because he is related to Dexter or Goldsmith's Maid.

Do not be in a hurry to use one whose colt you have not seen.

Use a stallion if possible a little out of his season, as he is not then over worked or over fed.

Avoid long-legged, slim-bodied stock, no matter how rangy, stylish or speedy they may be.

Some of the highest priced carriage horses in our cities are of this stamp, and if deprived of their fat they would be very inferior looking horses, and as regards their being useful, it is out of the question.

I would much sooner own the Dutchman's horse, who, when he laid down, "the shtall vosh full."

The first point in a No. 1 general purpose horse is durability; he is a good feeder, has a plump barrel, and, of course, is easily kept in condition.

Although we favor pure bred sires, yet there is here and there a stallion of mixed breeding, whose colts are of unusual merit. Take for example "Justin Morgan," "Old Royal George" or "Hornpipe;" although the latter's reputation is chiefly local, being confined to south-western Ontario, yet he left a wonderfully good list of general purpose colts. Watch your township and county exhibitions, and when you find a stallion of this sort, use him. Do as the ADVOCATE recommends in selecting seed wheat, "sow the variety which produces the greatest yield in your own section."

Although we have handled a good many horses during the past ten years, yet we cannot be accused of selfishness in anything we say, as we have no interest in any stallion, and consequently "have no axes to grind."

If your mares are light, use a stallion on the heavy side. Do not go to a great extreme, as we do not like too violent a cross.

Do not select one that would be likely to leave flat-footed colts, or colts that are coarse in the head or legs, as this cross sometimes produces stock that are too heavy in the head and limbs for their size.

We would prefer one weighing about 1,600 lbs., and would place them in the following order.

1st, Percheron Norman; 2nd, Suffolk Punch; 3rd, English Clydesdale. Although the Clydesdales are perhaps the best draught horses in the world, yet we do think them too heavy to produce, as a rule, first class general purpose colts. Still, we know of one now, three-quarter bred, of the Wm. Wallace strain, who is leaving as fine a lot of general purpose colts as any heavy horse within our knowledge.

In using a Percheron, use one of the type of the ancient Percheron, having a short back and long hips. The ancient Percheron was not so coarse and heavy as the heavy Normans or Percheron Normans so much in vogue at present. He is more springy and active, and as far as we can learn makes a much better cross on our lighter mares than his big half-brother.

A word of warning just here. Canada has been flooded for years with light horses; now the reaction has come. The great North-west is being settled, and we find a huge demand for heavy horses. Beware! Do not breed your general purpose horses too large and clumsy. The North-west, after it has been ploughed a couple of times, will require no heavier horses than we do. What help would a horse weighing 1,600 lbs. (with a bog spavin on each hind leg) afford his driver in a blizzard?

If your mare is of medium size, select a stallion of medium size, weighing from 1,400 to 1,600 lbs. Try to couple them so that the produce will weigh when matured and in good working condition from 1,300 to 1,500 lbs. The Cleveland Bay is highly spoken of as a stallion for this cross. We have never had much experience with the "bays," but have conversed with horsemen who have tried them and were much pleased with the result. We know that a light Percheron works well here. His colts are heavier and more blocky than those obtained from the Cleveland Bay when bred to the same mares, but are not so stylish or dark-colored, a large proportion of the latter being grays.

We think as fine a lot of grade, general-purpose horses from one stallion as we ever examined, were sired by a light French stallion, not weighing more than 1,500, and from mixed Canadian mares.

If your mares are large and roomy, of good disposition, with plenty of bone, and not inclined to curby hind legs, use the heaviest and stoutest thoroughbred English race horse in your vicinity. Some of the best horses for general purposes are obtained in this way. This is the cross which produces the renowned English hunter or steeple-chase horse.

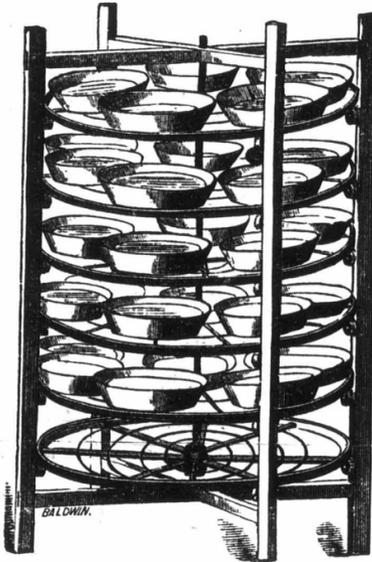
There is a strain of thoroughbred horses in Ontario called "Lapidist" which we admire very much for crossing upon thick, heavy mares. "Clear Grit" belongs to this family. We might mention the names of several prominent dealers who consider this one of the best families of light horses in Canada. Colts sired by a thoroughbred usually possess more pluck and spirit and have better wind than most horses. They are, consequently, not generally so good for poor teamsters, more especially if they are hired help.

If your mares prove poor milkers, feed the foals a little cow's milk. The action of the dam's milk will counteract any injurious effects. They will rapidly learn to drink. Feed the foals well the first winter on good hay, at least, cut green, or you will not be able to raise the best class of farm or general-purpose horses.

Sints and Selps.

Improved Patent Milk Stand.

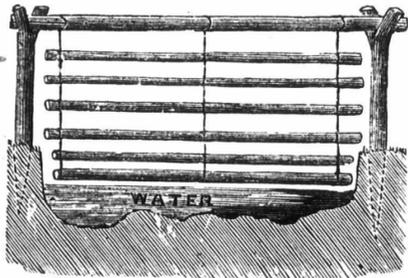
Our engraving represents an improved milk stand. The owners of the patent claim that this is the most important arrangement ever presented to the farmer for sustaining pans of milk and other



articles. They say: "Great difficulty has been experienced heretofore in setting milk properly, so that the cream will rise at all seasons of the year. This stand is made portable, so as to be easily put together or taken apart, which can be accomplished in five or ten minutes. The shelves are made in skeleton form, so as to allow a free circulation of air all around the pans, which is of the utmost importance. Each shelf turns by itself, independent of the others, and each will hold from six to twelve pans, thus showing that the stand will accommodate more milk than anything that can be made in the same compass. The free revolution of the shelves allows the pans of milk to be easily inserted or removed. The frame is such that it can readily be covered with a cloth or gauze covering which will effectually exclude insects and dirt. It has been demonstrated that milk will keep from three to four hours longer on this stand than on shelves, a very important item. The stand is appreciated at sight and is highly approved by those having it in use."

Flood Gate.

It is often necessary to have a flood gate, that is, a gate that will rise and fall with the motion of the water in the stream. For this purpose there are but few styles of gates used and all are constructed upon the same plan. The one shown in the ac-



companying engraving is well adapted for the purpose. The one at the top is made from poles of the desired length woven together with strong wire which, in turn, is secured to the overhanging pole. As the water rises the poles float upon its surface and do not in the least impede its onward progress.

Pedigree Craze.

(FROM OUR CHICAGO CORRESPONDENT.)

Sound, practical stockmen, as a rule, are not easily led to follow after the bubble fashion against the promptings of their better judgment, but once in a while some who are accounted the best among them act as foolishly over certain so-called fashionable families or breeds as does a silly woman over the "latest" articles in fancy millinery and dress goods.

A major part of humanity seem to follow and be led by a long headed few, whose specious arguments and example are accepted and followed, with hardly a question as to the prime motives of the leaders.

Generally when there is started a boom on any particular line of goods it must be on a good sound basis or else it is short-lived; but the large number of persons who, like a flock of sheep, follow as blindly their leader, are wholly unable to discriminate between popularity well merited and popularity which had its origin in the scheming and press manipulation of shrewd capitalists, perhaps whose inspiring motives are about as pure and philanthropic as those which prompts the miser's greed for gain. The popular idea is that the judgment of the majority is best for all. This theory is very good, but in practice the notion is too often misleading, for the reason set forth in the preceding paragraph, to-wit: The promoters of a craze of any kind, particularly when it is injudicious—if a craze can ever be the opposite—are generally the few who are pecuniarily interested, and are about the only ones who have a knowledge of the true inwardness of its origin; the innocent and too often ignorant "lamb" that are to be fleeced, being simply blind followers who, in the mad and thoughtless pursuit of their Will-o-the-wisp, seldom stop till their fleeces of hard earned dollars has been shorn; for it is but human nature to look for anything where we lose it. Persons who are ever ready to sacrifice something tried and true for something fanciful and new, are those who usually conclude that "farming and stock-raising are not desirable, congenial or profitable pursuits anyway." However, there is indeed "no great loss without some small gain," and he who parts with his gold foolishly and has nothing but bitter experience to show for it, should be thankful for the latter, as he may be richer than he was before.

There is now and has always been, to a certain extent, too much attention paid to an animal's pedigree and too little to the animal. In other words, we see a thoroughbred heifer, perhaps of faultless outline and general make-up—but even against our best practical judgment, we are afraid to bid very strongly till we see that she has in her veins the blood of a noble ancestry—if her great-grand-dam and sire were of aristocratic families, or ever had the advantage of being bred in a foreign country; we secure her no matter if there are enough pedigree worshippers like ourselves at the sale to run the price to a point twice the value of the animal. On the other hand, suppose the printer had mixed the pedigrees of this animal and one of plain "home-spun" breeding, and no one were present to correct the error; one would look at that animal and see at a glance her grand qualities, but because the pedigree did not show her to be a Gwynne, a Rose of Sharon, or some other favorite, bidding would be low and spiritless, and some sensible man who breeds from animals and not pedigrees, would secure a prize at a low figure.

A man who is compelled to look at the pedigree to decide whether he is bidding on a good animal or not, should purchase the pedigree and leave the animal for some one more practical.

Col. John D. Gillett, one of the best known short-horn breeders on the continent, it is said, has not a pedigree on his vast fine stock farm; but a glance at the records of the National Fat Stock Show, held annually at Chicago, will show that he has captured the cream of the herd and individual prizes. D. M. Moninger, of Iowa, whose display of cattle at the last exhibition attracted so much attention and secured so many premiums, is following the example of Col. Gillett—breeding animals and not pedigrees.

The Farm.

Sorghum.

Concerning the recent satisfactory experiments made by Professors Weber and Scovell at Champaign, Ill., in manufacturing sugar from sorghum cane, Colman's Rural World has this to say:—"It was an experiment to settle the question whether sugar could be made as well in the North as in the South, in such quantity as to make it pay. The season had been exceedingly unpropitious for the growth of the cane. The latitude was Northern Illinois, and the planting was on the level prairie. The spring had been very cold and wet, and seed lay in the ground a month or more without germinating. Seed planted on the 23d of June matured its cane as early as that planted a month or six weeks before. The rainfall throughout the three summer months in the vicinity of Champaign was 18 inches, while in usual seasons it has not been half that, and the sorgho crop needs but little rain, and revels in drought. The mean temperature during these same months was six to eight degrees lower than usual, while hot weather is needed to develop the greatest amount of saccharine. And yet, notwithstanding all these unfavourable circumstances, on the very first trial, before the seed was fairly ripe, the company were in possession of several thousand pounds of most excellent sugar, and from that time to this, there has not been a single failure in obtaining sugar, at least 40 per cent. of the entire amount of syrup crystallizing, and the balance of course making a number one article of molasses, commanding fully the prices of the New Orleans commodity."

These experiments have proved that there is abundant crystallizable sugar in the Northern cane, after becoming ripe, the whole fall, unless injured by freezing, and in the most unfavorable season for the development of sugar in cane, that one could expect. There need be no longer any fears of embarking in the business. It is as safe, reliable and certain as any other business, and we believe more remunerative, for the seed raised on an acre of cane is nearly equal in value for feeding purposes for all kinds of stock, to corn raised on the same amount of land. The value of the seed will pay for raising the cane, and delivering it at the mill, if near at hand, so there is no cost in production, as with the sugar beet or the ribbon cane, neither having any value whatever, except for making sugar.

The seeds of the sorghum, it appears, sell readily at 65 cents per bushel, and at that price it appears that they will pay all expenses of producing the cane up to the time when cutting begins. The Rio Grande company have housed their seed—amounting to 20,000 bushels—which at the above price will aggregate \$13,000. There is yet another product of the cane which it is proposed to utilize, to wit: the fibre left after the juice is expressed. A paper manufacturer in Philadelphia is testing the bagasse for paper. Experiments made by Prof. Collier, of the Department of Agriculture, with that view, have already shown that an excellent quality of paper pulp can be made from it.

A Cheap Cottage.

The following is a design for a cheap and ornamental frame cottage, with descriptions in substance as follows: The house cost \$1,000, and has on the first floor three good-sized rooms; a vestibule 5 by 6 feet, out of which a door leads to both parlor and dining room; a stairway leading to the chambers opens out of the dining room, and the stairs to the cellar are placed directly under, and open into the kitchen, which is of convenient size. Immediately back of it is placed the pantry, which is 5 by 6½ feet. A rear entry, 3½ by 5 feet, affords means of entrance to the house from the back porch. In the second story there are three good-sized bed-rooms, all nearly square, and each provided with a closet of convenient size. A centre passage way, which is lighted by a low window in the rear, affords means of communication with the several rooms. Space has been fairly economized throughout in the planning of this building. A cellar 6 feet 6 inches in height is under the entire building; there is to be a cistern under the patry, the excavation for which is to be one foot deeper than that of the cellar. A sink in the corner of the kitchen next to the pantry will have a pump connecting with the cistern.

The foundation below the ground is of field

stone, while that above the ground is of quarry stone; the walls 18 inches thick. All the rooms, with the exception of the rear chamber, are accommodated by the one central chimney, which starts from the bottom of the cellar. A grate is provided for the dining room, kitchen, and two front chambers. The frame is of sound hemlock, the principal sills being 4 by 8 inches, and the cross sills 6 by 10 inches; the joists are 2 by 9 inches; 16 inches between centres, with one course of bridging through the centre. The studs for corners, windows and doors are 4 by 4 inches, all others to be 2 by 4 inches, 16 inches between centres. The rafters are 2 by 4 inches, 16 inches between centres. Valley rafters, 3 by 7 inches; cellar beams, 2 by 6 inches; all timber well nailed or spiked together.

The exterior is sheeted with sound, seasoned and planed hemlock boards, over which is a simple



Fig. 1.—Elevation.

course of 8-pound rosin-sized building paper. Good, white pine siding forms the outside finish. The roof of the bay window is covered with tin, while the main roof is of the best quality of sawed white pine shingles, 18 inches long, and laid 5½ inches to the weather. The roof, preparatory for shingling, is sheeted with hemlock boards, laid with 1½ inch open joints. The cornice, window frames, corner boards, parlor bay window, and all outside casings and trimmings, are of good white pine lumber, thoroughly seasoned. The glass required is of the best quality that is made, single thickness. The sashes are 1½ inches thick, fitted with pulleys and weights. The outside doors are 1½ inches thick; the inside doors (with the exception of closets), 1½ inches thick, and the closet doors, 1¼ inches thick. All are four-paneled excepting the porch doors, which have glass above the middle rails. The hardware used about the doors is the best of its kind; the lower doors are hung with three bolts each, and provided with two tumbler mortise locks, with brass bolts and keys. The doors for the front vestibule, parlor, and dining-room are fitted with jet knobs, with bronze roses and escutcheons; all others have white porcelain knobs with porcelain escutcheons. The in-

boards are constructed under the counter shelf, having two shelves each. The closets have three shelves each. The plastering is put on in the best manner and of the best material. The exterior woodwork is painted with three coats of the best lead and oil; the color a light greenish drab with trimmings a few shades darker; the window blinds are of a color between the two.

Draining.

(Continued.)

BY C. G. ELLIOTT.

ACTION OF DRAINS UPON THE SOIL—HOW WATER ENTERS A TILE DRAIN.

A correct understanding of this will help us to determine the best way to make the joints, and also to locate the lines as regards their distance apart. The tiles should have their ends joined as closely as the inequalities arising from moulding and burning will admit of. When this is done there will yet remain sufficient space for the water to pass in or out, but not enough to admit soil, except in the form of very fine silt. At the bottom of the drain and nearly on a level with either side of it, the earth is saturated with water, that is, it can hold no more. The plane forming the upper surface of this saturated earth is called the water-table. When rain falls upon the surface it descends directly downward by the force of gravity. When all the particles of the drained soil contain all they will hold by absorption, the water passes down until it reaches the saturated soil, when, as it can go no further, it saturates the lower portion of the drained soil, thus causing the water-table to change its place and rise higher. As the water-table rises, the water rises through the joints of the tiles, and they being inclined, a flow begins and continues until the water-table recedes to the floor of the drain, when the flow ceases. It will be seen that the water-table will vary in height with the quantity of drainage water in the soil. When the water-table rises to the top of the drain, the tile will discharge a stream as large as its calibre. If the water-table rises higher than this additional head is given and the velocity of flow is increased, but the depth of drained soil is decreased. The fact that the tiles are porous does not increase the flow nor add to their draining properties. They would be as suitable for draining purposes if made of glass, or of glazed ware, as when made of porous clay, for they will be taxed to their full capacity by water flowing into the joints. The water-table does not extend on a level indefinitely either side of the drain, but rises as it recedes, the angle of rise varying with the nature of the soil. This fact will be alluded to again in the discussion of the distance apart of the drains.

HOW TILE DRAINS AFFECT THE SOIL.

Depth of Soil.—From what has been said before, it will be seen that the depth of the soil is increased by the action of tile-drains, since, were it not for the presence of the drain, when the water-table rises high, thus decreasing the depth of drained soil, it would remain so until the surplus water was carried off by slow natural drainage, in place of rapidly, as by the drain. All the soil acted upon by the drain is made similar to that at the surface. Air takes the place of the surplus water, so that a chemical action is begun. The inert soil matter is slowly changed into plant food, making the whole depth of drained soil the natural home for the roots of plants. It is often thought that the roots of farm plants penetrate but a few inches into the soil, and that if the surface is dry, rich and porous to a depth of ten inches, the plants have sufficient room for growth.

Temperature.—A warm soil is another effect of under-draining. When the soil becomes saturated and no means are provided for the removal of the water except by evaporation, no heat is absorbed by the soil until the water at the surface has been changed to vapor. In the summer the air is very much cooled by a shower of rain, because a certain amount of heat is required from the air and earth to convert a portion of the rainfall into vapor. The same change is necessary when the soil is saturated. If the rainfall is frequent but very little soil is warmed, all the heat of the sun being required to change the water at and near the surface into vapor. If this is true of the surface it doubly true of the soil several inches below the surface, for the water at the surface must be evaporated and the temperature of the soil raised before any warming process can go on in the lower portions of the soil. A drained soil has been found

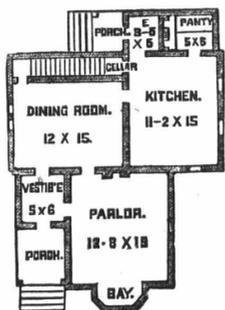


Fig. 2.—Plan of 1st Floor.

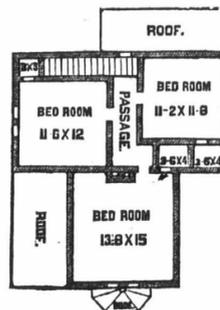


Fig. 3.—Plan of 2nd Floor.

side finish is white pine in parlor for all parts except the mantel, which is of white oak. The dining-room is fitted with ash wainscoting and casings, with cherry plinth, cap, and mouldings. The kitchen and other rooms are finished in white pine; the casings for the bed-rooms are 4½ inches wide. The roses are 5 inches wide. The pantry is ceiled up 2 feet 6 inches high to the counter shelf; above the counter shelf there are four shelves supported with rabbeted cleats. Cup-

to be from six to ten degrees warmer at seven inches below the surface than an undrained soil at the same depth. This difference in the soil often gives the farmer a season which is from two to four weeks longer, besides giving quick and increased growth to plants.

Chemical Change.—Heat is an important chemical agent. When permitted to enter the soil with air, important changes are made. Vegetable matter, hitherto inert, becomes further decomposed and mingled with mineral matter, thus making the lower soil similar to that at the surface. Again, the ammonia furnished us by the rain is held in a drained soil and aids in this chemical work. In order to see that such changes are made, let a portion of clay or hard-pan be taken from a depth of three or four feet and exposed to the atmosphere. Instead of remaining compact and solid, it will gradually crumble and in time will become chemically changed. The same action goes on when the earth is in place and the air is allowed to find its way to it, which it can not do until the surplus water is removed.

Drought.—It is often asked "If draining makes a soil dry in a wet year will it not make it too dry in a dry time?" It has already been shown that a drained soil holds a large quantity of moisture by absorption. The soil being very much deepened, the roots of plants have access to the moisture contained in a much larger mass of soil than when undrained. Again, a soil is filled with capillary tubes, which carry moisture to the surface, where it is quickly converted into vapor. If the surface is mellow and the whole depth of soil loose, the tubes are much larger, so that water is conveyed to the surface in much less quantities. Consequently, less moisture is lost by evaporation. Still further, in dry times the soil below the surface is much cooler than the air, hence, when air containing vapor is brought in contact with it, the vapor is condensed into water and absorbed by the particles of soil. In an undrained soil the surface is made compact by standing water, is baked by the sun when the water is evaporated, is compact below, giving little depth of soil for the plants. Moisture evaporates rapidly through the hard surface, and roots, having a comparatively small range, soon feel the ill effects of dry weather. Some soils are naturally very rich and porous, producing good crops when the spring rains are light enough to allow the soil to be worked, but it has been found that such soil produces much larger crops even in dry times when well drained. In short, thorough under-draining has been found to be a most efficient preventative of drought. It also makes better tillage possible, which in itself is a great advantage, and it makes all parts of the soil available for the use of useful crops.

Silos and Ensilage.

P. E. BUCKE, OTTAWA.

The use of silos and the feeding of ensilage are slowly growing in favor, and it is scarcely to be wondered at, being a change so reverse to the general practice of the farming classes, who, as a rule, from the nature of things, caused by their isolated lives, are slow to grasp and take up new lines of thought and practice. In towns where men come into contact, and the press is as necessary to them as the air they breathe, or the food they eat, anything new is thoroughly discussed and speedily taken up if found to be desirable; but with farmers it is a good deal otherwise. The papers are, after all, only taken by the few, and they have not the benefit of the attrition of mind on mind, which is had in densely populated centres.

It has been stated by a gentleman in the *Witness* (Montreal) that he found it difficult to keep more than fifty head of cattle on his farm in the ordinary way of winter feeding and summer pasture, but by the adoption of the new system he was enabled to keep three hundred and fifty, or six times more than he did before. A revolution such as this must strike any thinking man with surprise, and the question naturally arises, how can this be done?

It is fortunate for this continent that there exists a real live Bureau of Agriculture at Washington, who avail themselves of the best means of obtaining the most reliable and practical information that

can be had. From a small pamphlet, "No. 48," issued by them, we are enabled to lay before our readers the following facts: There are sixty-nine silos on the American continent, at least the Commissioner of Agriculture was able by the issue of a circular to obtain replies from that number of individuals using ensilage for the feeding of stock. It may surprise some of our readers to know that two of those sixty-nine reside in Canada, and are Geo. A. Pierce, of Stanstead, and W. B. Benson, M. P., of Cardinal, who lives a few miles below Prescott, on the St. Lawrence River, and is chiefly celebrated for his extensive starch works there. He is a large breeder of thoroughbred stock, and keeps a number of milch cows. His silos, of which he has five, four of which are 29 feet 6 inches by 16 feet 3 inches, and the fifth 34 feet by 16, and 20 feet 5 inches in depth, are built of stone; the mortar is made of sand and water lime, 12 feet 8 inches high and double board and plank, and 7 feet 9 inches higher to the roof. They are constructed quite adjacent to the feeding rooms. The forage generally used is corn or sorghum, and of this from twelve to twenty tons are grown to the acre. Mr. Benson averages his crop at fifteen tons. This is usually cut about half an inch to an inch long, generally by a horse-power machine; Mr. Benson uses steam. It is then filled into the silo, which takes three days to fill, men and boys spreading and stamping it with their feet so as to pack it as solid as possible. The cost of filling this silo was estimated at one dollar per ton, but Mr. Benson considered this too high, and hoped to reduce the amount next season. The silo being sixteen feet wide, the boards, or rather planks for covering the ensilage were cut 16 feet 2 inches, and over these were placed crossways four foot long planks, on which are placed loose stones of a convenient weight for handling, in a layer of two feet deep, to keep the mass well and solidly packed, as of course the corn stalks are put in green from the field, and it is the exclusion of air only which keeps it from heating. When taken out the stones are taken off the first four feet planks, the cross ones and those lying lengthwise are then removed, and the four feet by sixteen three are thus exposed, cut with the hay knife as required down to the bottom of the silo. This operation is again repeated, and so on till the silo is emptied, always leaving the stones and plank on what is not cut. On opening the silo it was found that eight inches was damaged at the top, but the sheep eat most of it, and four inches next the boards above the stone work was not very good, but the rest was highly relished by the stock. Mr. Benson says he prefers it to anything he has yet tried for feeding. No taste was found in either butter or milk. The steers that were fattening put on flesh rapidly, and it appeared to prevent them from getting feverish. The thoroughbred stock liked it, and their coats looked well on them. He gave the milch cows fifty pounds per day, the steers forty and the thoroughbreds from twenty-five to thirty pounds.

The milch cows had besides oat straw; some bran and cotton seed meal were mixed with their ensilage. The fattening cattle had a little hay, but he preferred the ensilage mixed with ground oats, cotton seed meal, and bran.

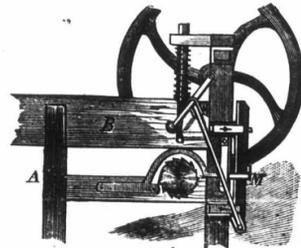
It was found so satisfactory in all respects that he proposes planting fifty-one acres of corn, and intends mixing some clover in part of it, as it is put in the silo. This shows that the matter has, with Mr. Benson, gone beyond an experiment. The fifty-one acres will produce seven hundred and sixty-five tons of ensilage, besides the clover. The corn is usually sown in drills, from thirty inches to three feet six apart, and harrowed and cultivated between the rows until too high for the horse to get between it. Corn, though yielding such a weight of fodder per acre, is not considered an exhaustive crop, as it obtains a large amount of nourishment from the air. It is usually cut when in full bloom, as with the drill mode of planting it would not head out. If the man deserves the praise of his country for making two blades of grass grow where one only grew before, how shall we honor the individual who enables us to raise seven head of cattle where one only could be fed?

In conclusion it must be borne in mind that ensilage cannot come into general use unless it is cheaply obtained. Costly machinery and extensive silos are difficulties which the ordinary small farmer cannot obtain. Mr. Morris, of Oakland Manor, Ind., U. S., one of the first to undertake this mode of feeding on this continent, appears to have solved this difficulty. He makes a ditch or cutting presumably into a bank, or where it can be well drained, eleven feet wide at the top and

seven at the bottom, deep as convenient, and any length required. Living in Maryland, where there is little or no frost, he believes in having his silos in the field where the crop is grown. His ensilage was analyzed at the New Jersey Agricultural Experiment Station, and took rank as No. 2 of nine fodder samples exhibited. He seeds in drills twenty inches apart, and grows from ten to twenty tons to the acre. He considers the feed worth \$10 per ton, or from \$100 to \$200 per acre. The analysis shows that an earth silo is quite as good for the preservation of the ensilage as either stone, brick or planks. He backs his cart into the silo, dumps the load and treads down with horses. The filling is carried several feet above the ground, rounded up, covered with roofing felt, and earth thrown on top of all. He says turnips doubled the grain crop of England. Ensilage will change the agriculture of all maize producing countries and increase their products in a much greater ratio.

Straw Cutter.

A new and improved straw cutter is shown in the accompanying engraving. A is the frame of the machine, and B is the feed box. The front posts of the frame rise above the top of the feed box, and to their upper parts are attached bearings in which a shaft revolves. To one end of the shaft is attached a large balance wheel, and the other end is a crank, by which the machine is turned. Upon the middle of the arm of the crank is formed a second crank, and to the spoke of the balance wheel, at the same distance from the axis of the shaft, is attached a crank pin. The crank and the crank pin are connected to the lower corners of the knife frame by two connecting rods, and



the knife frame is kept in place by slides and gibs placed on the forward end of the frame, which slides up and down carrying a knife attached to it in an inclined position. To the side bars of the knife frame are attached lugs, which, as the frame moves upwards, strike against and raise the projecting ends of the levers, M, the levers being pivoted to pawls that engage with ratchet wheels attached to the ends of the upper and lower feed rollers. The levers, M, are kept in place, and are made to operate in vertical planes by keepers attached to the opposite sides of the machine through which the levers pass. To the forward side of the frame, A, is attached a steel plate in such a position that the straw, while being cut, will rest upon the upper edge of the plate, which thus serves as a stationary knife.

Feeding inferior grades of small grain mixed with corn is a practice rapidly gaining in favor. It is cheaper and better in some respects than a pure corn diet.

The prices which were paid by the National Short-horn Association for the various Herd Books were as follows: American Short-horn Herd Book, \$25,000; American Short-horn Record, \$13,000; Ohio Short-horn Record, \$1,000.

The wool product of the world is 1,155,000,000 pounds, and of this amount more than two-thirds is owned and grown by British subjects. It is such as these that make England the power she is among the nations of the earth.

An exchange says that sheep manure is of but little if any value as a fertilizer unless the sheep be fed hay, grain or oil cake. The effects of regular feeding are almost as noticeable on the lands as on the stock.

A correspondent of The Germantown Telegraph makes his granary distasteful to rats by "daubing all the angles on the outside of the building with hot pine-tar for the width of three or four inches, and also any seam or crack where a rat or mouse can stand to gnaw."

Stock.

Were Mr. Cochrane's Sheep Diseased?

[FROM OUR CHICAGO CORRESPONDENT.]

During the National Fat Stock Show recently held at Chicago, Hon. M. H. Cochrane sold at public auction a large number of fine Shropshire sheep. The sheep were on exhibition several days and were examined and admired by many good judges, and not a word was heard from anyone about the sheep being afflicted by the foot-rot. Recently, however, an Iowa man had written to a Chicago breeder's paper, stating that some of the sheep purchased by Mr. Cochrane had been discovered to be very lame with foot-rot. This announcement struck like a bombshell in the camps of those who had purchased sheep at the sale, and as the stock was so widely spread, and the breeder so widely known, nearly all of the papers in the country have given the matter the greatest possible publicity. The impression conveyed by the wisecrack who discovered what he called foot-rot, when many others failed to see it, was that the sheep were badly diseased before they left Canada. Does anybody who knows Mr. Cochrane feel inclined to credit the idea that he would descend so low and risk his great reputation as a reliable breeder, by shipping diseased stock to the States for sale? It may be that the diagnosis of the correspondent was erroneous; we hope it may be so proven; but at any rate, admitting that it was correct, might not the sheep have contracted the disease after having crossed the Canadian border?

[We were present at the sale and did not notice any lameness in the sheep. We have detected the disease in some imported sheep. We once had it on our own farm from purchasing imported sheep. The disease gives some little trouble and causes some loss, but it can soon be got rid of. We understand Mr. Cochrane's sheep that were sold were not Canadian sheep, but imported from Europe. For years we have endeavored to have great precaution and care taken at our quarantine grounds, as we have been afraid of serious injury being done to our Canadian stock by the continued importation from countries where contagious diseases exist, and when disease has existed in Canada, we have always been able to trace such diseases to importation from Europe or the U. S.—Ed.]

A shameful case of inhumanity to a car of Canadian sheep en route from Niagara Falls to Boston, for transhipment to Europe, is reported. It is the duty of the U. S. Customs officials, in the different States through which cattle in bond pass to see that none are sold unless 20 per cent. duty is collected. When the sealed car in question reached Albany a slick kid-gloved Customs officer was on hand, and though the stock had been without care for 48 hours, he refused to open the car. Several animals were dead and others crippled, but the car remained on the siding till a train was made up, and proceeded to make the remainder of the journey without feed, water, or other attention. Indignant drovers predicted that the whole load would be dead, or too sick to live, by the time Boston was reached.

The national convention of the American Agricultural Association was recently held at Chicago. A Pittsburg paper said of it: "This institution is of no advantage to the agricultural interests of the U. S., and is believed to be run chiefly in the interests of railroads and monopolies. Its reception by the agricultural press of Chicago was rather chilling."

FEEDING SHEEP IN THE WINTER.—An excellent grain ration for breeding ewes may consist of one pint daily of a mixture of one bushel each of corn, rye, oats, buckwheat and bran. The mixed food is better for the sheep than any one grain, and they do not tire of it. Sheep are given to change and are somewhat restless in disposition, and desire a change of food, and the change improves their appetite. For fattening sheep corn and bran would be best because fat is wanted, and this the corn will supply; the bran is added to make variety and to induce the sheep to eat and digest more of the corn. A fattening animal does well in proportion to the quantity of food it can be induced to consume and digest, but a breeding animal should be fed differently, because all that is required is to keep the animal in healthful condition and support the fetus.

Sheep in the Barn-Yard.

We see many farmers who keep cows and young cattle, colts, sheep and swine, big and little, all in the same barn lot, and expect the cattle and sheep and colts to make their living from the straw stack. We want to record our vote against such an abomination. It is a most unprofitable and inhuman practice. But this note is a plea for the sheep especially. There are too many farmers who think sheep can live on nearly nothing. A bite of straw and no water, or a few dry stalks of fodder and a run to the straw stack, is considered choice care for sheep. We know of a farmer who saw others doing well with sheep. He bought a nice lot of Cotswold ewes, in the fall, as he had an abundance of fodder and lots of straw. The sheep were fat and in good fix when he turned them into his barn lot, 50x150, with a half dozen cows and as many sows. There was not a dry spot in the lot most of the winter and spring, except close around the stack, and that the cows and sows usually occupied, while the poor sheep were pictures of discomfort, standing humped up where they could against fences. In a few weeks their fleeces were ruined, and the sheep poor, not worth one-half their cost in the fall.

The farmer put them out to pasture the 1st of April. Some of them scoured, all of them moped about hungry and weak, since the little grass that appeared in the sheltered places was frozen and washy. The dogs came to their relief and ended their torture the latter part of April.

Now, that farmer says there is no money in sheep. We told him he had more in than he would ever get out until he learned how to care for them.

We think it is safe to say sheep should never be kept in the barn-yard among other stock.

If the farmer has no other lot for them in winter, he is not fixed to keep sheep. He might as well try to make his potato and garden truck thrive in a stock lot.

Sheep need, first, a clean dry place to lie down. They need a place to exercise, where there is no mud. They will not thrive in the mud, feed as well as one may. Long wools are especially impatient of mud and discomfort. They need to be cared as common sheep or fine wools.

A few good Cotswolds, comfortably kept, pay a better per cent. than any other stock. Left to rough it around a straw-stack and waded in the mud, they are the least profitable.

The fleeces of any sheep are badly injured around stacks. Long-wooled fleeces are more damaged than the downs of fine wools, since they are longer and more open, and catch more beards, chaff and straw.

We advise farmers who have no dry lot or shed for such sheep, to sell in the fall and quit the business until they are better fixed to have learned more about the nature of the stock they would handle.

There are few farmers who can handle successfully all classes of domestic animals. Let each give his best efforts to the kind he succeeds best with. It is quite desirable that the farmer, like any other business man, should know what branch of his business he fails in, and what he may succeed with. The farmer who thinks he can make sheep pay in a muddy barn-yard, around a straw-stack, does not know how little he knows about a sheep.—[Wool Grower.]

TIMES FOR FEEDING AND WATERING.—In the winter season the times for feeding depend much upon other circumstances. Three times a day is probably the best plan, because the food is digested during the intervals, and the stomach, emptied of food, craves a new supply. But it is not necessary to give grain food so often as this. For dairy cows the morning feed, given at 6 o'clock, should be mixed with meal; at noon a feed of long hay, or roots with bran or some other food fed with them, and at 6 o'clock in the evening a similar ration to the morning food may be given. If the food in the morning and evening is wetted water will be needed at noon only. If the food is given dry water should be given midway between the meals. Regularity of feeding is indispensable, whatever plan may be adopted. The long interval at night between feedings is not exacting upon an animal, which is resting and sleeping most of the time, and this rest is as necessary to the animal as food is.

Col. L. P. Muir, of Kentucky, has been elected editor of the American Consolidated Shorthorn Herd Book, at a salary of \$3,000. He will make his headquarters at Chicago.

Which Breed of Sheep.

An American exchange says:

A man is expected to speak favorably of the particular breed of sheep he is engaged in breeding. We have men engaged in breeding sheep that will tell us that the Merinos are the best sheep. Men breeding long wools will gravely say, "The long wools will do equally well in large as in small flocks." And there are men breeding the Downs, who will claim that "the Downs shear very heavy fleeces." They practice this deception in order to sell sheep.

We have plenty of room for all the different breeds, yet each breed should be kept where they belong, and intelligent, honest breeders should not deceive their customers, but should take special pains to state plainly the facts, viz: where large flocks are to be kept, and the production of wool is the main object, use the Merino. Where early lambs and fancy mutton command a high price, use the Downs. And use the long woolled, heavy carcass and heavy shearing sheep, where mixed husbandry is practiced, and the production of both wool and mutton is the object.

In looking over the field before us, I can plainly see two things which the sheepman most needs: 1st, More stability among the breeders;

What I here mean by stability is, a fixed line of breeding—not changing a good flock of sheep to suit the wool market. To illustrate: A certain grade of wool sells high this year, and the masses rush in and change their flocks, and perhaps next year the fashion changes and the price of their wool will change also.

Let us take the wool market as it now is, and see if a man would make anything by changing his flocks to suit the wool market. Medium wool commands the highest price this season. It is a good flock of medium woolled breeding sheep (taking old and young together) that will average six pounds to the sheep. Now these six-pound fleeces, at 25 cents a pound, is \$1.50 for each sheep. It is not an extra flock of long combing wool which will average 10 lbs. to the sheep. The average price of this class of wool is 20 cents, making \$2 for each sheep. A gain of 50 cents per head in favor of the long wools. The same may be said of the fine wools. They are much heavier shearers than the middle wools.

Grooming and care of the animals are a most valuable means of keeping them in health as well as of saving feed. The skin of an animal existing in a state of nature is washed by every shower, brushed and carded by every bush, licked by its mates, rubbed by the ground in rolling, and in various ways kept free from accumulations of its own exfoliations, from the stoppage of its pores by sweat, and from its own inherent dirt. A healthy skin means warmth, health, life, and vigor, other things being about right, and we can secure this in horses and cattle only by grooming. Clean skins are just as important for cows as for horses, and the use of the brush is recommended in the cattle stalls.

The Steamship Hermod, from Antwerp, arrived at New York on the 16th ult., with a flock of 51 sheep aboard. They are from the Rambouillet farm in France, and M. Cerf, a Frenchman, who has been three years in this country, and has a large sheep farm near San Antonio, is their owner. These sheep, he says, are direct descendants of a flock presented by the King of Spain to Louis XVI of France in 1786. The flock has always been kept isolated, and all that were in any way blemished have been killed from year to year. Before the sheep were sent to France it was a greivous offence to send any of them out of Spain, but to-day the Spanish strain it is said is not wholly pure, while the French sheep are utterly blue-blooded. The sheep on board the Hermod are of medium size and fat. They all have thick curly horns and stiff wool. They perspire freely, and the outer part of the wool is moist with oil. On parting it showed snow white within. The sheep can be sheared twice a year and yield heavy fleeces.

J. T. Attrill, of Ridgewood Park, Goderich, Ontario, is having good luck with the Grand Duchesses. On the 9th inst. imp. Grand Duchess 28th dropped a fine red-roan c. c. to the imp. 5th Duke of Tregunter. The new arrival has been christened Grand Duchess of Ridgewood 3rd. This makes five females and one bull of the Grand Duchess tribe in America.

McMullen, Winner of Sweepstakes Prize, Chicago Fat-Stock Show, 1881-1882.

The subject of our engraving is owned by Mr. Gillette of Elkhart, Illinois. The steer McMullen was bred by one of Mr. Gillette's neighbors, was got by a bull of Mr. Gillette's stock, and from a cow of the same strain. Mr. G. bought him as a yearling, and since then he has been fed simply as all the steers on that farm are fed—on corn and grass. He has never been housed a day in his life, winter or summer, except while at the Fat Stock Show, and has had no oil-meal or ground feed of any kind. Mr. Gillette is of the opinion that his steers can do their own grinding more cheaply than he can do it; and that a little extra corn in the winter is less expensive than barns and the consequent expense of attendance in cold weather.

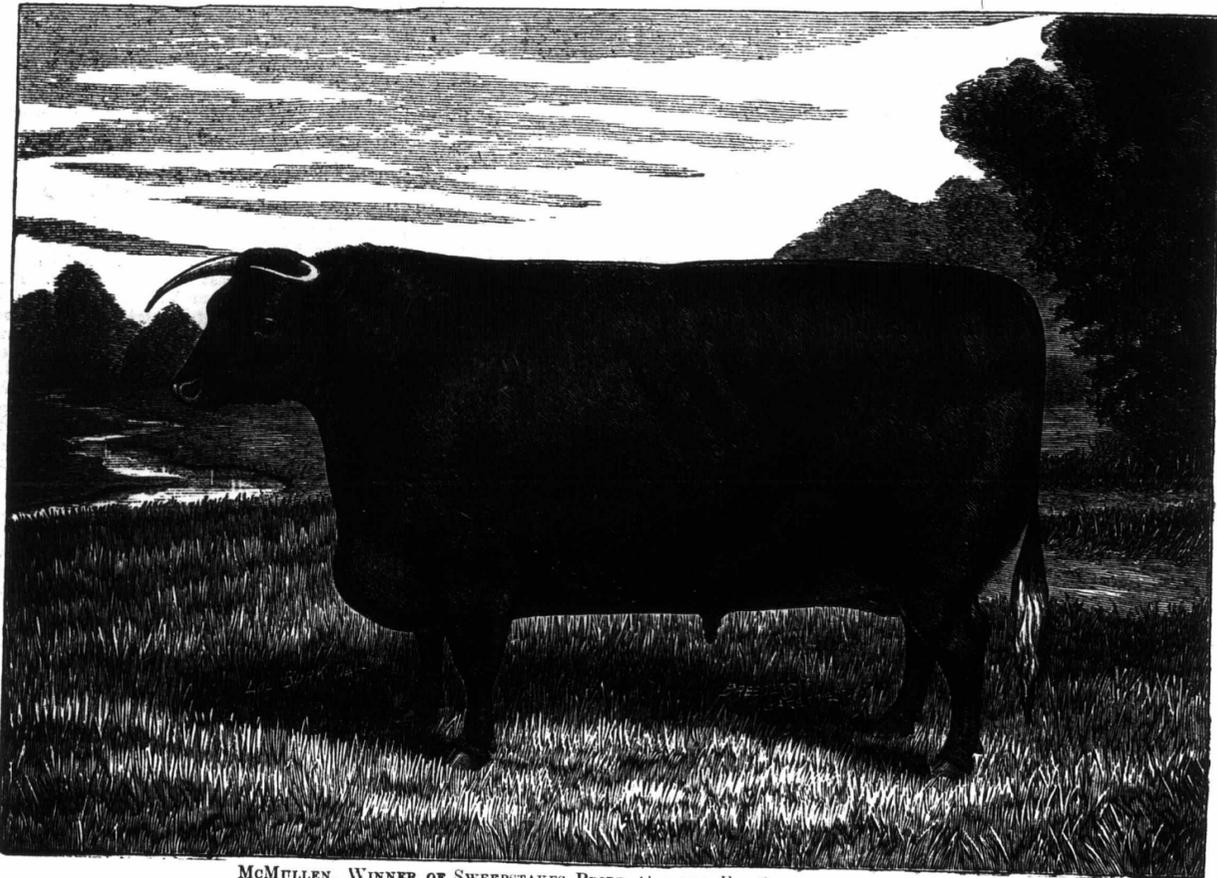
portion to live weight. They pointed to his neat, fine head and neck, to his comparatively fine bone, to his general smoothness, to his mellowness of touch, and, above all, to his wonderful back and loin, and challenged comparison in these particulars with any other beast in the show. They said: 'What does an inch or two in height signify, or the lack of a few pounds of tallow on the flank, and of cheap meat on the lower part of the round, when you have such a wealth of roast and sirloin and loin; such uniform smoothness and finish; and such a small proportion of offal?' They further said: 'Cut him in two, longitudinally, in the middle, and where is the steer that will show an equal proportion of his carcass on the upper side of the dividing line?'

The Smithfield Club's Cattle Show.

The eighty-fifth annual exhibition of this time-honored and almost uniquely popular Society, and its twentieth in the Agricultural Hall at Islington,

educational *raison d'être* of the Society, quite independently it may be of its exhibitorial capacity, is not only not complete, but will never be wholly finished. And for this reason: fresh generations of men are constantly arising; and these require to pass through the same, or and even more elaborate, curriculum of tuition.

But even the original measure of education in the art of breeding and fattening stock is not as yet by any means completed. The Smithfield exhibitions have not yet attained the height of average merit of which the animal world is susceptible, albeit we discern each year, and this year most of all, a nearer approach to that desirable end. And were the Smithfield Show to be discontinued, which we trust will not come to pass for an indefinite period, it would prove this—that the senility of old age had brought about the final decadence of British agriculture; and this result would follow: the art of breeding and fattening would immediately begin to deteriorate. If only the show were held in abeyance for a few years, by way of experiment, we believe people would be



McMULLEN, WINNER OF SWEEPSTAKES PRIZE, CHICAGO FAT-STOCK SHOW, 1881-1882.

We consider the likeness a very flattering one, as the animal was much longer in the legs than he is represented in the engraving. The *Breeder's Gazette* speaks of him thus:

"The award last year was adversely criticised by many; and inasmuch as McMullen had not been thought worthy of a prize in his class—three-year-olds, grades and crosses—by the judges in that ring, there seemed to be some foundation for the criticism. Those who were disposed to find fault with the award called attention to the fact that he was long-legged, comparatively light in the flank, and not so heavy in the thighs as one would like to see, and it was for these reasons that the judges in the three-year-old class had passed him by. On the other hand, the judges in the sweepstakes ring stated that no steer in the show would, in their opinion, cut up so well—none would yield so large a percentage of high-priced meat in pro-

London, England, was held from the 4th to the 8th December. To say that the display has been this year equal to any of its predecessors is beyond our ken and province, but that it has may be taken for the saying. We have made many pilgrimages to the Smithfield fat-stock shows, and apart from the unavoidable sameness, or, rather, similarity, which is apparent in the series, we find an unflinching perennial freshness; and of the present show we feel constrained to state our impression that, take it for all in all, it is as good an all-round display as we remember to have seen. More pronounced is our impression that the different breeds and classes are even and levelled, so far as style, type, and quality are concerned, than they have heretofore been. Some people have thought that the Smithfield Club's work, as originally sketched out, has been some time ago sufficiently completed, and that its annual appearances may be discontinued, without much loss to the community at large, and to farmers in particular. We have not ourselves arrived at present, and are not for some time to come likely to arrive, at this conclusion. We are quite free to admit our belief that the

astonished at the measure of decay which had taken place during that period. Once the shows recommenced, the quality, type, size, and style of the animals would be found, we conceive, to have fallen off very much, and to have become almost ludicrously irregular. There is work, then, for the Society to do, so long as the leading institutions of this country exist, in anything like a prosperous condition, in the way of instructing the producer, not to mention that of interesting the consumer, of animal food—of beef and mutton and bacon.

We do not think there has been in this show any cattle equal to the champions of former years; but we do not consider that the display as a whole is of higher all-round quality and merit than any of its predecessors we have had the pleasure of inspecting. The Devon cattle and South-down sheep, each of which, as a breed, is the neatest and comeliest of the species of four-footed animals of which it is a member, maintain, to say the least, their general excellence; and the same may be said of most other breeds of sheep and all other breeds of cattle. The Sussex cattle and the Hampshire-down sheep show, perhaps, as breeds, the

greatest all-round improvement, and are rapidly coming to a degree of excellence—if, indeed, they have not already reached it—which will entitle them to be placed on a level with the rest. While the Devon cattle may be regarded as the South-downs, we may regard the Sussex cattle as the Shropshires, of the bovine world. Not that they are composite in character like the Shropshires, but they occupy, as it were, an intermediate position, combining the beauty of the one and the size of the other breeds. With the Leicesters, the Oxfords, and especially with the Cotswolds, we were disappointed; but with the Southdowns, the Shropshires, the Hampshire, and the cross breeds, we were much pleased, as, indeed, we were with all the breeds of cattle.—[Live Stock Journal.

Group of Prize Cotswold Sheep.

No. 1 is a ewe, Nellie Akers, ear tag 49, record No. 1243; bred by Henry Akers, Black Burton,

Mr. Arkell is one of our leading breeders of Cotswold sheep, and is now establishing a flock of Oxford Downs, and has among the flock some yearling ewes that won first prize at Royal Show, held at Reading, England. He visited the show while in England last season. He has some of both kinds for sale, imported and bred from imported stock. His farm consists of 300 acres, 270 being under cultivation. The farm is situated about four and a half miles from the city of Guelph.

Value of Apple Pomace for Stock.

Quite a high value is placed on apple pomace by *The Massachusetts Ploughman*, as appears from the following article, which gives also suggestions for its treatment and use. What is said of its effect

mixed with meal it is readily eaten, and is quite as good, if not better, than potatoes. If spread in the hen-yard, the hens will pick out all the seeds, which are really the most valuable portions of it. Sheep are very fond of it.

"Pomace spread several inches deep on a poor gravelly hill will bring in a good crop of clover the second year. It is often used in steam cider mills for fuel under the boilers. In hot weather it is very difficult to keep it, but when cool weather comes it can be kept for some weeks without fermenting enough to injure it. During warm weather it should be fed out directly from the press, unless it is spread and dried. Pomace left out in the sun and rain in heaps decays and sends forth a disagreeable odor, therefore it should not be left in the vicinity of the dwelling; for the same reason only small quantities should be put in the pig-pen at any one time. In commencing to feed to any animal only small quantities should be given at first, gradually increasing to the amount believed to be necessary. Every farmer who carries his apples to



GROUP OF PRIZE COTSWOLD SHEEP, THE PROPERTY OF HENRY ARKELL, FARNHAM FARM, ARKELL, NEAR GUELPH, ONT.

Oxen, England, and imported by H. Arkell, July 1881; won first prize at Oxford and Hereford shows, England, 1881; first at Guelph Central same year, and in 1882; won first at Toronto, Dominion, and Provincial, Kingston; Western, London, and Guelph.

No. 2 is a two shear ram, Jim Gillot, ear tag 22, record No. 1242; bred by T. and S. Gillot, Kilkenny, Oxen, England; won first prize at Dominion, and Provincial, Kingston, and Western Fair, London, 1882.

No. 3 and 4 are two shearing ewes, highly commended at Royal Show, Reading, England, and first prize at Toronto, Kingston, London and Guelph, 1882.

Won first prize and silver medal for pen of Cotswolds at Kingston, and first prize at London for pen consisting of six ewes and one ram.

on horses is confirmed by an acquaintance who lately mentioned to us having repeatedly seen a lean old team flesh up, become "hog-fat," in fact, when allowed the run of the pomace heap near the cider mill of his neighborhood:

"By pressing the juice from the apples no great amount of nutriment is extracted; very little sugar is lost, and this is more than made up by the reduction in bulk, so that a bushel of pomace is of more value than a bushel of apples, which are considered worth from 15 to 25 cents a bushel to feed cattle, providing the apples are ripe. Green-apple pomace, like green apples, is of but little value for feeding, but the pomace of ripe apples is valuable for almost any kind of farm stock, as it tends to produce fat rather than milk. After cattle become accustomed to it, two pecks a day to each animal should be given; the same amount given to a horse will fatten him if he is not worked too hard. Pigs will readily eat it, and it appears to agree with them. It is also good for poultry; if boiled and

mill to grind for cider, should secure the privilege of carrying home, as wanted, as much pomace as his apples make; for the real value of pomace is much more than the cider, if the apples are ripe."

The profit in feeding sheep must always largely remain in the manure pile. Whatever else fails, that is always secured. On grain-growing farms especially, fattening sheep in winter is almost indispensable to profitable farming. They dispose of huge stacks of straw, eating a little and compacting the remainder with their excretions after being fed with the richest foods and making the best manure. We have hardly learned how much a load of manure is worth, but a flock of fifty to eighty sheep well bedded and well fed will work down a big stack in the course of the winter, and make at least as many loads of barnyard manure as there are animals employed at the work.

"Send along THE ADVOCATE. We cannot do without it. I. G." Bristol, P. Q.

The Dairy.

Dairying in Ohio, No. 1.

BY JOHN GOULD.

One, to quite understand the methods and peculiarities of Ohio dairying and its tendencies, must needs know a little of its history, which is a most remarkable one, for not only is it the pioneer of dairying west of the Alleghanies, but it was "Ohio boys" who solved the problem of a market where its butter and cheese might be disposed of, and made dairying possible at the very time when delay in this matter would have proved fatal to the industry. Why it would, arises from the very fact that over production had so gorged the "barter markets" of the then rude frontier towns, that this product could not be given away, and to continue its manufacture would not only have been to suffer total loss, besides the item of labor, which only rated at 50 cents per day, "store pay," but represented an amount of time that the early settler could not afford to lose, with forests to fell before him, slashings to clear, and homes to establish.

Northern Ohio, better known to the world as the "Western Reserve," is an especially favored place, actually occupying among other localities of the States, a supreme position, a place it won for itself from the start, and largely possibly from the fact that the original inhabitants were from Massachusetts and Connecticut, and were educated and cultured, and had the independent Republicanism about them that insured success in their new undertaking, the settlement of a new State.

With these settlers, fond of butter, cheese and milk, came the family cows in goodly numbers, not unfrequently yoked, and forming the lead team on the long six weeks journey, and besides had the further responsibility of furnishing the material of a "Dairy Supply Co" (limited), along the road. The settler, it will be seen, had the base upon which to secure a stock of cattle which multiplied as fast as the clearings were extended, and with these cows and heifers the supply of butter was soon added to by that of cheese, and when the war of 1812 came, Ohio was well embarked in the dairy business, but which of course suffered a reverse by the war for a year or two, but by 1818 the supply of butter and cheese had so far outgrown the demand, that they had become a drug in the market, and could only in limited quantities be disposed of for "store pay," to say nothing of money, of which at that time there was absolutely none. The signs of the times were that dairying would have to be abandoned, but as nothing better offered, the settlers were forced to take their chances, and await for an opening.

Usually, it is the unexpected that always happens, and the outlet for butter and cheese came from an unexpected quarter, the South. A Portage county boy, Harvey Baldwin, 19 years old, tired of endless chopping and slashing, resolved to go to sea, and chose the distant port of New Orleans from which to ship before the mast. One day as he stood in the little market of that town, he saw a grocery man selling English cheese in quarter and half pound lots, for \$1 per pound, in gold. A moment decided him. He would buy cheese and butter in Ohio, he would float it down the Ohio and the Mississippi rivers, and he would sell it at fabulous prices. It was a long journey, however, nearly two months, but he arrived in August and brought three tons of the very best cheese he could select, agreeing to pay two cents per pound when he returned. It was a hundred and twenty miles to the Ohio river to transport his cheese, but they were delivered at Beaver, Pa., a flat boat was purchased, the cheese transferred to it, and alone, our cheese merchant turned the prow of his boat into the stream and started for an unknown market. Boats in history have carried fortunes, and even destinies. This boat carried both. Its success meant prosperity, money, and the perpetuation of an industry; its failure would blank them all. Failure carried with it calamity to the dairymen behind. Six months past, and no one had heard of Baldwin, but one day he arrived home to the surprise of all, and what was more to

be rejoiced over, his pockets were lined with gold, and he paid every man, and what was still better, he wanted five tons more good cheese at 3 cents per pound. He had visited the river towns with his cargo, had sold cheese simply, and by the pound, and in these choice lots for any kind of barter that was offered in exchange. Barter was exchanged for other barter, and at last the cheese was all sold, and a boat load of "exchange" represented the cheese. The exchange was again bartered for a lot of furs, which Baldwin floated down to Cincinnati with, and sold to John Jacob Astor's agent for gold.

The trip was repeated and with better results. Other speculators went to other markets with butter and cheese, and within ten years not a southern city, or frontier town, or a western trading post, but had had its fill with Ohio cheese. The dairymen at home were in high glee. Prosperity had come and had brought them money. The rapid progress of the Reserve, its rapidly cleaned farms, its early abandonment of log houses and barns, the erection of white farm houses on every hand, the building of a school house at every four corners, and a church every three miles, not to say internal improvements of every kind that so rapidly sprung up, were the result of dairying, and up to the present day the idea of dairying has always been uppermost in the industry of Northern Ohio, and that in this persistency the State has won its great financial standing, there can be but little doubt.

"The methods of Ohio Dairying" will require a separate chapter, for Ohio has methods peculiarly its own, and mayhap will always be original in its practices.

Improving our Butter Industry.

CONDITIONS OF IMPROVEMENT.

There is a remarkable disparity between two of our important and kindred industries. Our cheese product is as noteworthy for its quality and good reputation, as is our butter product for its inferiority and bad character. In the financial statement of the Treasurer of Ontario, statistics are given which show the great improvement in the cheese trade in the short space of ten years, and its present importance; and the inference to be drawn is plain, that the condition of the cheese trade is a subject for congratulation. But with regard to the butter industry an opposite statement is made, so positive as to leave no room for mere inference. The Hon. Treasurer thus speaks:

"We make in Ontario over 45,000,000 pounds of butter annually. I regret to say, as Minister of Agriculture, that it is 45,000,000 pounds of a very inferior article. That is the verdict upon it in England and other foreign markets, and there is no evading the unpleasant fact. It is very evident that with our large annual product a very small percentage of increase in quality would add a very large amount to the total value." The condition of things in the other provinces is, at least so far as regards the butter product, much the same as in Ontario.

The cause of improvement in the cheese industry will naturally be regarded as suggestive of possible means of improving the sister industry. I say suggestive only, because the two industries are in several essential respects dissimilar. The respective processes are different, and the trade in each product has its own peculiar features; hence the conditions of improvement are not in both cases the same. There is enough in common, however, in the two processes of cheese-making and butter-making, and the trade in one product is enough like the trade in the other product, to make reform in one case suggestive of means of reform in the other. The improvement in the cheese industry was owing to the adoption of scientific methods of manufacture, the help of improved mechanical aids, and a better system of marketing the product. All this amendment was itself in connection with, and more or less owing to, the introduction of the associated system, the establishment of factories, and the help under Government aid, of dairymen's conventions. Prof. Bell at the Dairymen's Convention at Bellville, in February last, in a valuable paper on this subject, stated as follows: "The marvellous advance in cheese-making is chiefly owing to the employment of scientific methods of investigation, namely, accurate observation and logical deduction, tested and confirmed or corrected by experiments." Upon the bearing of mechanical aids in the work, Prof. Bell said: "The apparatus supplied now leaves little to be desired, furnishing a striking contrast with the past. I will instance the jacketed vat and the gang press. The recent improvements both in apparatus and methods,

have the advantage over the dairy-maids of former times that the disciplined force carrying the repeating rifle and revolver, would have over a tumultuous mob armed with the javelin and bow and arrows of antiquity." The same good authority goes on to show that the improvement followed a peculiarly bad state of things and the relief came from the adoption of the "joint-stock system of dairying," and was largely attributable to the Dairymen's Associations. These have given us "the views of gentlemen of large experience and scientific attainments, and have sent from factory to factory the most skilled and ablest practitioners, to instruct in the best and most improved methods of manufacture and proportions of material, thus insuring a uniformity of quality which alone can form the basis for a national reputation."

What shall we learn from this that will help us towards an equally gratifying result in the other industry of butter-making? If we recognize Prof. Bell as an authority, and we may well do so, since his statements are abundantly supported by other authorities, we may understand that, first, the adoption of scientific methods, taking the place of rule-of-thumb practices, is a condition of improvement in butter-making, as it was in cheese-making. Let us quote again: "It is desirable that all persons connected with the prosecution of the dairy business, whether the manufacture of utensils, or machines, the supply of raw material (milk) or the conversion of the latter into a marketable product, should have acquaintance with the principles on which success depends."

The second condition of improvement in the butter industry, we shall in a similar way learn will be the adoption of improved appliances. The above change is certainly a not less imperative condition of improvement in butter-making. The former is purely a mechanical process, and requires mechanical aids. The poorer the appliances the greater the skill required to produce a good result. The unsatisfactory results which are obtained, generally in the whole country, prove that the necessary skill is wanting to accomplish the best results with the appliances actually in use.

The third condition of improvement in the butter industry will be a better marketing system. When good cheese is made in the factories it is known in the market not only from what factory it comes, but in what month it was made. The consumer, pleased with the quality, requires more of the same. The cheese-dealer maintains the connection, and recognizes the demand to supply it. With butter it is different. Except in comparatively few instances a supply of good dairy butter is limited, and it goes into market, under the best of circumstances, usually as a sort of "job lot" that is not supposed to be repeated. The chances are that it obtains not even this status, for, being a small quantity of good, and in an unfathered way mixed with a large quantity of poor butter, it suffers under the common verdict of "bad butter."

All this, manifestly, must be improved. Could the quality of our whole butter product be at once raised the matter would regulate itself; but as the very best that can be expected is that improvement be gradual, one condition of improvement will be some amended method of marketing that will encourage rather than discourage each step of advance.

THE CREAMERY SYSTEM NOT A COMPLETE REMEDY.

It was the adoption of scientific methods, improved appliances, and a better system of marketing that raised the cheese industry to its present high condition. The butter industry will be raised to a higher level only by similar means. It was through the establishment of cheese factories that the above means of improvement were employed.

All this was shown in the preceding paper. The question now arises—may a similar improvement in the butter industry be brought about through the agency of "creameries," as butter factories are called, to take the place of the (home) dairies? One factor in the success of the associated system of cheese-making was the relegation of cheese-making to the factory. After factories were established cheese-making in the dairy was gradually given up, and the dairy, so far as the one industry of cheese-making was concerned, became nearly or quite obsolete. The farmer through the summer season sends all his milk to the factory to be there manufactured into cheese. After the factory season has closed he sends his milk into the dairy to be made not into cheese but into butter. If the creamery is to do for the butter what the factory has done for cheese, in like manner the butter dairy must follow in the way of the cheese dairy and become a thing

of the past. Is this a thing to be looked for or even possible?

There are two, and only two, sister industries of the dairy—those of butter-making and cheese-making. When one of them—cheese-making—was taken away from the dairy there was still left the other one—that of butter-making. When the creameries shall have done for butter what the factories have done for cheese, there will be nothing left for the dairy, and not alone the butter dairy, but the dairy itself will have become obsolete.

This is the result that does not seem possible, and certainly nothing in the history of the factory system suggests its possibility. The dairy, devoted to the manufacture of one or other of the milk products, must continue to exist. No one is sanguine enough to think it possible for the dairy to become wholly obsolete.

There are places where the conditions are favorable for the success of either factories or creameries, and yet, owing to various causes, neither factory nor creamery will ever be built in them. There will be factories and creameries which for some cause prove decided failures; it being a fact that there are to-day buildings that have been used for either butter or cheese-making, or both, which, though supplied with every requisite for manufacture, are now standing unused and profitless. Again, there are farmers not so situated as to make it convenient to send milk to the factory, and there are farmers who are in close proximity to the factory and who yet have objection to that institution or its management, or who prefer in their own dairies to turn their milk into its product. Lastly, in the spring and fall the supply of milk is not enough to allow factories or creameries to be worked to profit, and as a matter of fact before factories open and after they close, operations are carried on in even those dairies that were idle in the flush of the season when the factories were working.

There is still another reason why the creamery may fail to accomplish for butter what the factory has done for cheese. The associated system seems better adapted to the cheese-making process than to that of butter-making; while, on the contrary, the dairy seems well adapted for butter-making, and not for cheese-making. The transportation of milk for cheese-making may do it good, but this is not true of milk intended for butter-making. Cheese-making is both a chemical and mechanical process that the factory operator has been enabled to carry out so well as to raise the factory product above the average of dairy cheese. But butter-making is a mechanical process and one that is easily carried out in the dairy; and butter may be produced in the dairy of such high quality that it will be above the average of anything to be expected from the creameries.

Lastly, the history of the creamery system proves it to have inherent defects that are not in the factory system. There has been a modification of the original creamery system that proves there were in it elements of change—or failure. In the West whole States have adopted the newer system, as the "cream-gathering plan." In this modified system, not the milk, but cream only is taken to the creamery, and there made into butter.

Enough has been shown to set aside the claim that any radical improvement will be made by the introduction of the original creamery system. In the modified system the analogy of the factory as to its product—cheese, with the creamery as to its product—butter, is wholly lost. For cheese-making, the milk is taken to the factory before labor has been expended on it. For butter-making, under the new creamery system, the milk is set at the farm and the cream only transported to the creamery.—[Monetary Times.

Heat in the Dairy.

Now that winter has set in with dead earnest, every dairyman must settle for himself the question, whether or not he will have his dairy-room heated. Those who practice the old method of setting milk shallow, either spread it out in one or two large pans or use numbers of small pans. When the weather gets very, very cold in the dairy, the cream remains mingled so much with the milk, though it has reached the top, it is still very hard to skim off. The line of demarkation between milk and cream is so indistinct, it requires the nicest work to secure all the cream.

To prevent this trouble the air in the room, or over the milk, should be raised to near the point of sixty-two degrees, at which point the cream will thicken up and form the same consistent mass that it does in summer.

How the heat, to accomplish this, can be most

thoroughly accomplished may be determined by each one's individual surroundings. The common plan in small dairies is to use the old-fashioned wood stove, and this requires watching and replenishing so often that it becomes quite a matter of importance. Few wood stoves will keep a hot fire for more than two hours at a time, thus requiring the watcher to be on hand night and day. As the weather always gets colder toward morning, it is a serious matter to watch the fire from eleven o'clock at night until six o'clock in the morning, when it is most important that some one should be on hand. Wood fires have another serious objection, they will not keep a continuous and steady heat. It is generally conceded that cream will not rise to the most perfect degree when the temperature is constantly going up and down. Why this is so, no one yet seems able to give a satisfactory explanation; but the fact remains and has to be met as best it can. For this reason a coal stove is much to be preferred to wood when coal can be procured with due regard to economy of price, because it will always burn longer and more steadily, and does not require as much watching as wood. There is, however, one thing to guard against in using coal; unless there is a very strong draft to the chimney the gas from the coal is very liable to leak into the room. This may occur if there are any cracks in the stove, or if the pipes do not fit closely; stove gas is exceedingly injurious to cream, which readily absorbs it, and makes its appearance in the butter; any careful man can guard against this danger by using the ordinary care that should accompany all work about the dairy-room.

Steam is of course a better method of heating for this purpose than either coal or wood, the only disadvantage being the trouble and expense of first putting it in. In creameries and butter factories this trouble is obviated, though not always taken advantage of.

The practice of using heat in the dairy may not be questionable when judged from the point of view that requires the greatest amount of butter from the milk, as it is pretty well conceded that by this means all the butter can be procured. The question of trouble and economy will, however, cut a big figure in the table of estimates. Every man therefore who uses heat should make himself thoroughly acquainted with other means of raising cream before persisting too long in what may prove an antiquated custom.—[American Dairyman.

The Apiary.

My Experience with the New Bees.

In the fall of 1881, I obtained some of the new races of bees to give them a trial, for how should I know for certain of their superiority, or otherwise, unless I tried them myself? To be sure, I had heard what others had said, *pro* and *con*, regarding them, but these persons did not live in my locality, neither would their tests be the same that I should apply. This is where the reader of bee lore often draws wrong conclusions, and the different opinions of various virtues clash. The same locality and the same tests would reconcile much that now appears to be directly opposite in its teachings.

On an average, neither the Cyprians or Syrians came out in the spring as strong as the Italians, but if we had had a winter like 1880-81, the case might have been different; still I am satisfied that in a mild winter their wintering qualities are inferior to the Italians, as my experience is; they are more restless, thereby causing greater mortality, and a greater consumption of honey. From all reports, I expected to see them start to brood-rearing more rapidly in the spring than the Italians; but in this I was disappointed, for they were nearly a week behind, and kept so until June, when, about the time the Italians commenced to swarm, they began to exert themselves beyond anything I ever saw done by the Italians.

In this matter of brood-rearing the Syrians seemed to be ahead, beginning a little sooner, and filling every available cell with brood during the month of July; but as fall came on apace, I could see no difference between them and the Italian, as regards late brood. Right in the height of the honey season, they fill their hive with brood to overflowing, and with a person who does not spread brood so as to get every available cell full at the commencement of the honey harvest, this trait is just the thing, for no matter how much honey there is in the brood-chamber, or how fast it comes in from the field, the Syrian queens are not

to be crowded down to a small portion of the bottom of the combs with honey, as the Italians sometimes are. This is splendid for those who do not wish to be to the bother of getting their bees ready for the honey harvest.

I also found they would enter the boxes much more readily, if left to themselves, than would the Italians, and the capping to their cells of honey was whiter than those of the Italian, much resembling the work of the blacks in this respect. The yield of comb honey from them nearly equalled the average yield throughout my yard and it was excellent in quality.

I was quite enthusiastic regarding the Syrians (and should have been over the Cyprians had they not been so vindictive) until I came to prepare them for winter, when I found that, while nearly every one of my Italians had from 10 to 15 lbs. more honey in the hive than they needed for winter, these new bees had to be fed about that amount, to give them honey enough to winter upon. This sustains friend Heddon's idea, as regards the possibility of our having too much brood for profit. It also sustains what I have said regarding the preparing of our bees, in just the right time for the harvest and not afterward, thus having them consumers, instead of producers. Could I have had a good yield from buckwheat these bees might have been of use, if they had not still kept on breeding to such an extent as to consume the larger part they gathered.

One thing I noticed of the Cyprian bees, which I have never seen in print, was that they were from 1 to 2 hours later in starting out in the morning than any of the rest of the bees. Hot mornings, during basswood bloom, the other bees would be tumbling down on the bottom boards to their hives, with great loads of honey, before sunrise, but scarcely a bee would be seen to leave the Cyprian colonies until an hour after sunrise, when they would sally out with a rush, and seem to work faster than the rest for a few hours, after which the difference was not noticeable. As to vindictiveness, the Cyprians are ahead of anything I ever saw, as soon as the hive was opened, but if undisturbed, a person could walk in front of their hive and sit there without being molested; but raise the cover to the sections, where there was a glass on one side, and they would rush toward you, against the glass, with perfect fury, and if you chanced to be a few on the outside of the sections, but separated from the main cluster, they would dart on to me, taking hold with such a grasp that it was impossible to shake them off. With all other bees I ever saw, a few bees isolated from the cluster will not sting, but on the contrary run till they can find a place to join the cluster.

The Syrians I found quite peaceable until deprived of a queen, when they were nearly as bad to sting as the Cyprians. In not a single point did I find the Cyprians superior to the Italians, unless I except the whiteness of comb produced, and in many points they are inferior. Their stinging quality was the worst of all, and effectually debar them from being kept as a pure race, in my opinion. I care for no further experiments with them, and shall supersede them with my more worthy Italians.

As to the Syrians, I have them from 4 different parties, and shall try them again another year, being careful, as in the past, to clip the heads of all the drones, till I find them worthy of a permanent place in my apiary.—[G. M. Doolittle in Bee Journal.

Feeding Bees in Winter.

In the first place let me say that I would prepare the feed in the shape of a syrup thus:—Take of pure clean water two pounds to four pounds of sugar; A coffee or extra C is best. Bring the water to a boiling heat and then add the sugar; stir well until it again boils and skim off all impurities; then let it cool and fill up glass tumblers and tie cotton cloth over each, and turn them upside down over holes in the top of the hives, if of the old fashioned box or gum log, and you will have the satisfaction of seeing the tumblers soon emptied and stored in the brood combs. If you are using a good movable frame-hive you can feed your syrup in the top of it in the following way: Take some old bits of combs and lay in the surplus chambers, and pour the syrup over them, and the bees will take it all down. Feed as fast as they empty the glasses or combs referred to. We should feed all weak stocks late of an evening, which will prevent robbing in a great degree. If you use the glass tumblers to feed from I would recommend boxes to be turned over them so as to keep robber bees out.—Cor. Germantown Telegraph.

Garden and Orchard.

Protecting Plants During Winter.

The utility of protecting plants during winter is not sufficiently appreciated; even those of reputed hardiness in any given climate will well pay the expense of partial protection from the severity of low temperatures. It is sometimes remarked that a plant to be fitted for general cultivation must have among its good qualities the faculty of taking care of itself at all seasons; but it must be remembered that the majority of plants, grown for the sake of their products, have been removed from their natural conditions, by change of climate, selection, crossing, hybridizing, etc., to such conditions as are found most conducive towards realizing the purposes for which they are grown; protection from extremes of temperature, therefore, becomes a part of culture routine, and in many instances it is one of much importance.

The degree of cold that plants will resist without being injured cannot be definitely ascertained short of actual experiment; their powers of resistance depend upon many contingencies. A plant will sometimes be destroyed by exposure to a temperature not lower than it had previously encountered without sustaining any apparent injury. It is not to be supposed that this seeming anomaly is due to any change in the law of nature; but it is to be traced to causes that influence the resisting power, and upon the knowledge of these causes depends our ability to aid, by culture processes and appliances, this power of resistance in plants which form the objects of special culture and care.

The exact process by which cold destroys plants is a matter upon which there is yet room for conjecture. The mechanical action of frost on vegetable tissue is undoubtedly a cause of injury; fluids expand while freezing, and the expansion of the sap while undergoing this process lacerates and disrupts the tissue, interrupts the connection of the sap vessels, and hastens destruction and decomposition, especially in delicate and succulent growths. When, therefore, a plant has reached a degree of maturity which has converted the fluid matter into woody fibre, its power of resisting cold is much greater than when its tissue is highly charged with watery matter, so that it is a well established axiom that plants resist cold in the inverse ratio of the quantity of water which they contain, or in proportion to the viscosity of their fluids.

But it is also well known that the mere thermometric degree of cold does not indicate the extent of the injury that plants suffer during winter. The hygrometric condition of the atmosphere is at least of equal importance.

Plants that pass with safety through a zero cold in December, will frequently be destroyed by the cold dry winds of March, although the thermometer may not indicate more than ten degrees of frost. The intense acidity of these cold winds acts in a similar manner as the hot dry winds in summer.

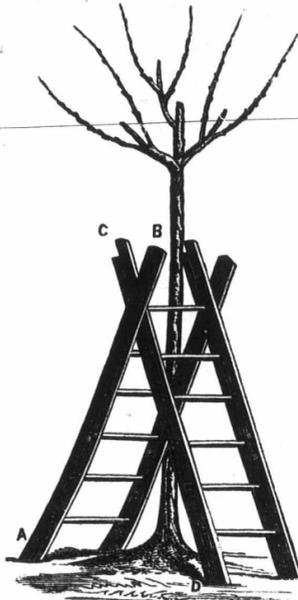
The moisture of the plant is extracted by evaporation, and the resulting injury will depend upon the amount thus evaporated.

It follows, therefore, that whatever tends to render tissue moist and prevent its solidification, increases its susceptibility to injury from cold; and whatever tends to reduce its humidity and hasten the conversion of fluid matter into woody fibre, increases its power of resisting cold; and upon the recognition of these principles all protecting appliances should be based.—[Wm. Saunders in National Farmer.

APPLE POMACE FOR MULCHING.—A correspondent of *The Country Gentleman* adds this notable item of experience: "I have had, in some seasons, the pomace from 500 bushels of apples, and have used it all (except what my cattle have eaten) to mulch fruit trees. I have put it under and around trees of all sizes and ages; some just set out and some fifty years old. I have put two loads (half cords) under one tree, the branches of which would not spread more than fifteen feet. It improved the tree and the fruit. The acid in the pomace is death to codling moths, I think. I have two trees of the Early Sweet Bough sort which had borne no good fruit for three years. I covered the ground one fall six inches thick with pomace; the next year the trees were full of as fine fruit as ever grew."

A Garden Ladder.

A writer in a late number of *Revue Horticole* describes and gives an illustration, here reproduced, of what he calls a perfect garden ladder. Its construction may at once be perceived by examination of the engraving. In the position shown it has the form of a step ladder, and as such may



be used under and about small trees for gathering fruit, pruning or grafting. When straightened out so that the side C, D forms a continuation of A, B, it forms a long ladder, the point C striking against the upper round of the lower part. If desired, the two parts can be separated, making two short ladders. A useful size is about nine feet for each length.

Hyacinths for Winter Blooming.

Nothing can be more charming and attractive during our dreary wintry weather than a few glasses or pots of different colored hyacinths. Success in growing them depends upon a few simple rules which, if followed, will beyond doubt give abundant satisfaction. They will bloom equally well in pots of earth or glasses of water. If the former method is most convenient, fill the pot (a five or six inch one is plenty large) with light sandy soil; then press the bulb into the earth nearly even with the surface; water thoroughly and set away in a partially dark cool place—a cellar or dark closet will do: they should remain there four or six weeks and need not be watered or cared for. If examined at this time it will be noticed that the roots will have grown so as to fill the pot, while the bulb has perhaps not begun to sprout.

This is exactly what is needed, for the roots must get started first in order that the plant may have strength to throw up a vigorous and well-filled flower shoot. On the other hand, if potted and immediately placed in the light, the top will begin to sprout and flower before the roots have made scarcely any growth, and the flowers, if they come out at all, look sickly and soon drop off.

After they are brought to the light they should have plenty of water or the flower bulbs will all wither. They will bloom nicely if the pots are immersed in a vessel of water.

If grown in glasses the same is true in regard to putting away in the dark; the glass should be filled so that the bulb touches the water, and in four or six weeks, if kept dark, the glass will be nearly filled with beautiful white roots; then if brought to the light they will flower in four to six weeks, and will well repay you for all extra care.

As to the varieties, the single are usually the best for winter flowering, and the unnamed varieties, costing only about half as much as the named, produce as fine flowers, though the range of color is not so great.—[Fruit Recorder.

The Art of Pruning Trees.

The New York Tribune says: It is impossible to teach, in the paragraph for which a friend inquires, what no one has yet taught fully in a book, and what few learn in a lifetime. There are no professional pruners among us, or, if any, very few indeed who know how to prune all kinds of trees judiciously. We are only beginning to regard the art of forestry. Some day we may have schools in which the care of trees will be indoctrinated. Every sort of tree and shrub not only has its own peculiar requirements as to pruning, but these are modified again to suit the season, the climate, the object or use of the tree, and the taste of the owner. Trees can be divided into the most diverse shapes, if taken in time, and treated by gentle measures. Severe pruning is fatal to most fruit trees. The finger and thumb, used with foresight in June, and later on young trees annually, will forestall or exclude the knife, to the immense benefit of the tree. The saw should only be used in cases of necessity, owing to neglect or accident; and a coating of thick tar, paint, varnish, or wax should protect the wound. One of the first things for an orchardist to learn is to distinguish fruit buds and spurs from those which produce mere wood. The object then is to produce a fair annual growth of each, taking care that an excess of wood does not smother the fruit buds, but that all are spread or placed so as to have fullest possible light and free air on their leaf surfaces. The fruit itself is generally best when screened by the shade of a leaf. If a tree does not make its proper average of new wood-growth in any year, it will decline unless the fruiting is reduced.

If pruning is attended to annually there will be no necessity for large wounds, which are as injurious to a tree as to an animal. A correspondent writes that in his neighborhood all the orchards and trees pruned by an itinerant are declining and dying, while those not pruned then are still sound. The fault is in doing such severe pruning at one time, aggravated by leaving the wounds open to the cold drying winds. When a branch is already dead from any cause and decaying, it is necessary to cut back to sound wood, and a coat of varnish, paint or tar should be applied to prevent loss to the tree by evaporation of the sap from inside, and further decomposition by access of air from outside. Pruning should not be done when the sap is so abundant—as in late spring—when the wound cannot dry. Its continued ooze and flow causes rapid decay, and injures the bark below the wound.

The winter protection of roses is not properly understood by many amateur florists, some overlooking the matter and others neglecting it altogether. The hardier kinds need very little protection, and that mainly at the roots to preserve an even temperature. A few branches of evergreens should be tied loosely around the tops and a moderate mulch of coarse, strawy barnyard manure spread around the base. Anything that will assist in preserving the vitality of the plant through winter will be sure to be noticed in extra fine flowers the following year. Very few of the so-called ever-blooming roses will withstand the severity of our cold weather without adequate protection. If allowed to remain in the open ground all winter they must be protected as above, but more efficiently if possible; that is, there should be a greater number of branches of evergreens around the tops, avoiding, as every thinking gardener will, the dangerous habit of tight packing "to keep the cold out." Some cut the latter class of roses to within a few inches of the ground and cover the whole with tanbark or similar material.

A few choice plants, well cared for, will give much greater satisfaction than a mass of sickly leaves and vines, so crowded as to darken the room in which they are kept, for our window plants should add to, rather than take from, the attractiveness and comfort of our rooms in winter. A single pot on either side of a window and containing a bright flower, or a single vine or two trained around it, with plenty of warm sunshine flowing back and giving cheer to the whole room, gives a charm like a single rosebud to an otherwise plainly dressed person. So in attempting the cultivation of flowering plants in winter, do not attempt to do too much. If you want a greenhouse, then build a greenhouse, but do not attempt to turn your parlor into a winter garden.

Trees.

It is impossible which a friend in fully in a book. There are no if any, very few have schools in indoctrinated. only has its own g, but these are the climate, the te of the owner. most diverse ated by gentle to most fruit d with foresight annually, will immense bene-ly be used in t or accident; arnish, or wax the first things istinguish fruit produce mere e a fair annual excess of wood ut that all are possible light The fruit itself the shade of a per average of ill decline un-

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Poultry.

Cross-Bred Fowls.

The practice of crossing the different breeds of poultry never yet resulted in the production of a perfect bird, and never will. Fowls may be obtained that answer every purpose for egg-production, and a fair profit may be realized from their flesh, but, as a general thing, they cannot be depended on. For market chickens the common producer is satisfied, but the amateur requires something better. This he finds in the pure breeds. Any cross not only affects the quantity of eggs, but the quality also suffers. The object of the amateur is not direct profit to himself, although this is attended to in the long run, but the pleasure of beholding fine birds that furnish fine eggs, and chickens for the table, all of home production. The caterer to the public market generally employs a cross in which there is largely mixed the Brahma blood. In this he obtains size, and by adulterating the blood with some other, the size often exceeds the original fowl. Quick feathering is often sought for, and this is found in the Leghorn race. This cross makes tolerable layers, pretty good sitters, but miserable flesh, although answering well the purpose of early broilers. The epicure is fond of broiled chicken, and so long as the flesh produced had once worn feathers, the appetite is satisfied, and the price obtained by the producer is in reality more, owing to the advantage in weight, than from pure breeds. But when one has really had the opportunity of testing the difference between the pure well-bred bird and the mongrel, the decision is in favor of the thorough-bred fowl, for all purposes where home consumption is concerned.

Crosses have always been employed, and will continue to be, so long as the multitude see an increase of size by the producer. In crossing, the strongest, purest blood will predominate. For instance, a brown Leghorn cock crossed on a Brahma hen will produce a chick with Leghorn color and markings, while size is obtained from the dam. In many instances the feathering of the leg will disappear. Both these breeds possess pencilled necks, and the newly-hatched chicks will show the triangular mark on the top of the head, and the three dark or colored stripes down the back. The Leghorn blood is stronger than the Asiatic, and the strongest will crop out in the color and marking of the chicks. The Spanish blood is even stronger, when in purity, than the Leghorn, and a stronger blood than either of them is the Dorking. A perfect bird is hard to obtain. It is not the result of crosses, but the mingling of pure blood that has been kept distinct through many generations. Uniform birds can only be obtained from purity of blood; and when this uniformity has been established for many generations, we may approach in rearing of fowls as near perfection as is possible. The perfect bird is only seen among wild specimens. Our poultry yards never produced one. The perfect birds are those that for generations beget their like alone. There is never any discrepancy in the markings and coloring of our migrating birds. Did any one ever see a partridge with any markings other than the usual blending and mottling of gray and white?

If the poultry house is cold, bank it up well on the north side with snow.

Early hatched pullets should be laying now, and if they are not the cause why is probably for lack of warmth, food, drink and care.

A piece of liver or other offal placed in the poultry house will be of benefit to the hens; also a chopped turnip or mangold will be appreciated.

As dry earth in which the fowls can dust themselves is often difficult to obtain in winter, a good substitute can be had by using coal ashes, which should be sifted into a box and placed in the hen house.

Any one kind of grain will not satisfy or fulfill the requirements of the animal economy, and keepers of poultry should strive to procure a liberal supply of different kinds for their fowls, and feed in rotation as they need it.

Veterinary.

Pleuro-Pneumonia in Sheep.

Pleuro-pneumonia of a non-contagious, though fatal character, has recently appeared in a flock of sheep belonging to Mr. G. White, of Windsor, England. It appears that on September 25th last Mr. White purchased two lots of lambs at Werthwell fair. In one lot there were 130, and in the other 100. After purchasing all were mixed together and conveyed to their destination by train. On arriving at Mr. White's farm they were given a run at grass, with dry food, and on the following day they were turned on rape, receiving at the same time a liberal amount of cake, chaff, &c. A few days later two of the 130 were found to be ailing, and soon succumbed to acute disease of the chest. Since that time between thirty and forty have died, and nearly all that remain of the larger lot are suffering from the malady. It is stated that twenty of the diseased lambs were placed in an orchard with two others of Mr. White's home flock, both of which soon sickened and died, and it is believed that the latter were infected by the former. Its non-contagious nature, however, is pretty clearly shown by the fact that, notwithstanding the two lots were pastured together, and otherwise treated in every respect the same, the lot of 100 continued to thrive and were disposed of in good condition after cohabiting with the sick animals for from ten to fourteen days.

As Mr. White's sheep, other than those recently purchased, were receiving the same food as the 230 referred to, there does not appear to be any reason to regard the disease as having a dietic origin. The first indication of sickness is marked by dullness and prostration, the stricken beasts separate themselves from the flock, and seek shelter and warmth. Food is early refused, the ears are pendulous, the tack arched, the head droops, the bowels are constipated, and the belly becomes tucked up. These symptoms are soon followed by others denoting pulmonary derangement. A profuse discharge of a mucous or muco-purulent character issues from the nose and eyes, the breathing becomes quick and panting, and later on extremely labored. Simultaneously there is a frequent and painful cough, with soreness of the walls of the chest and liquid evacuations from the bowels. Great emaciation and extreme prostration result in an inability to stand, and then death quickly ensues from asphyxia or suffocation.

The changes revealed by *post-mortem* examination refer to the sac of the heart, the lungs, and the pleura. The heart sac is thickened, and in many cases adherent to the outer surface of the heart. The cavity of the chest contains a watery or milky fluid, which during life compressed and disabled the lungs. The lining membrane of the chest is variously altered by inflammatory action, and the lungs are extensively consolidated, and in many instances beset with abscesses of considerable size.

SIR,—I have a heifer coming two years old, and she has warts on her neck the size of walnuts, and one or two the size of a hens' egg on her neck, a little in front of the fore legs, on the right side. They are neither hard nor sore; they have been on about two months. Will they hurt her or not. Your dictionary came to hand; it is a very useful book; it paid me well for my trouble. yours, etc. S. S., Delta, Ont.

[Have them removed with the knife and then dress the part afterwards with a solution of arsenic once or twice a week. This is a sure remedy.]

SIR,—I have a four year old colt which became knuckled in the hind fetters about a year ago. It was not caused by work or hard driving. Do you know what would cause it? Will you suggest a remedy? Please answer in ADVOCATE.

O. U. S., Salisbury, N. B.

[It might be caused by standing on a hard floor without regular exercise, or it might be caused by driving on the road while young. Sometimes it is the first symptoms of spavin, or it might be weakness of the joints. Bathe the joints at night with cold water and bandage, or you might apply almost any stimulating liniment to them, or if you were not using her apply a cantharidine blister every two or three weeks all around the joints.]

SIR,—I have a number of small pigs which have been well cared for, viz., kept clean, warm, dry and well fed. Notwithstanding all this, one after another has been dropping off. They are attacked with piles or the large intestine protrudes from the rectum. Can you name the cause and give a remedy? SUBSCRIBER, Princeton, Ont.

[Want of exercise causes the piles in pigs. Yours are evidently kept in too confined a space. Administer, according to size of pig, about a table-spoonful of castor oil, and afterwards give them plenty of sulphur.]

SIR,—Please answer the following questions in your columns of the next month. We have a valuable mare imported last spring. She has a swelled leg; it started soon after she came over; it swelled on the inside of hock joint and broke. After that was healed it swelled at fetlock joint and broke; run for a week and then healed up. The leg is still swollen up to the hock, and feels hard and cold. Could you tell me what is best to do? She had the distemper when we got her.

FARMER'S SON, Clinton, Ont.

[It will be necessary to give her a purgative drench (Barbadoes aloes, eight drachms; carbonate soda, two drachms; ginger, one drachm, dissolved in a pint of warm water) once every ten days. Give her a powder every night in her feed (nitrate potash, one drachm; sulphur, two drachms). Allow her to have plenty of exercise.]

The great dairy fair at Milwaukee was a splendid success. The exhibition is said to have been far superior to those in New York, and twice as large. There were houses built of cheese, one of them having 850 cheeses used in its construction, worth over \$7,000. The display of butter comprised hundreds of tons, one pyramid aggregating not less than 25,000 pounds.

The receipts of cheese were quite large at Boston last week, or 14,191 boxes against 9,327 for the corresponding week in 1881. Since May 1, the total receipts have been 285,602 boxes, against 289,619 for the same time last year. The exports have increased of late, and for the last week were 8,009 boxes, against 2,465 for the corresponding week in 1881. Since May 1, the exports have been 119,850 boxes, against 112,023 for the corresponding time last year, or an increase of 7,827 boxes.

CHEESE FROM A BEAN.—A telegram from Marseilles to a London contemporary tells of a wonderful bean which is being imported from China and Japan, and from which can be made a very excellent cheese, hardly distinguishable from Parmesan. It can also be cooked and eaten like other vegetables, but cheese making is its "forte." The next step, we presume, will be to advertise the formation of a bean-cheese company, and produce a whole volume of analyst's reports in its favor.

The continued and prospective scarcity of mutton was emphasised the other day at a meeting of butchers from various places in the south of England. The convention, if the word may be used, was held in Dorchester, and a resolution was passed to the effect that a shilling a lb. should be charged henceforward for all the best joints of a sheep. Mutton is undoubtedly dear, and farmers are now able to obtain extreme prices for anything first-class in quality, while second-rate stuff commands ready sale enough.

Frozen roots, or, indeed, frozen food of any kind, is very pernicious to swine and all other stock, as it is apt to scour them badly, and in any event disturbs their digestion and renders the other food taken into the stomach less nutritious to the animals.

According to late statistics Ontario's growth of fall wheat to the acre is in advance of that of every State in the American Union. This year her average crop of fall wheat per acre was 26.3 bushels. That of Kansas was 19.5 bushels of spring wheat, Ontario's crop this year averaging 16.5 bushels, Dakota's being 16.7 bushels per acre.

The agitation in favor of prizes for Welsh cattle at the Royal shows has ended satisfactorily, the Royal Agricultural Society having revoked their former decision, and agreed to include prizes for this breed in the York prize-sheet. The breeders of English Cart-horses, and of Polled Aberdeen or Angus cattle, contribute special prizes supplementary to those offered by the Society.

Correspondence.

NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open and postage will be only 1c. per ½ ounce. We do not hold ourselves responsible for the views of correspondents.

SIR,—I have rented a farm for two years. The meadow land that is on it seems to be run out, and the chances are that there will be a poor crop of hay on it next year. Do you suppose that it would pay to buy artificial manure to top dress with, and what would be the best to procure, and what would it cost per acre? The soil is a clay loam, with a clay subsoil. I intend to sow 16 acres of wheat and 11 acres of barley; the soil is of the same quality as the meadow. Would it pay to buy salt to sow? I see by the Agricultural Commissioners' report, that the experience of some farmers, in regard to sowing salt, was that it had a tendency to keep the straw bright and the grain clear and plump, but they could not say that the yield was greater. I myself have not had any experience of the kind.

R. B., Bromley P. O.

[For the short period for which you have rented the farm, it certainly would not be profitable to purchase fertilizers. A top dressing of well decomposed barnyard manure would be beneficial, but you would not get any return for your outlay with such a short lease. Artificial manures are very costly and the beneficial results obtained from their application is spread over a number of years. The good results from sowing salt vary very much; in some instances it produces heavy crops, while in others there is little appreciable benefit derived. The renting of such a farm as you describe, for so short a term, is a rash undertaking. Any improvement you make will be for the owner of the farm, as it would not allow you in such a short time to recoup yourself for any outlay. If the farm was in good heart you might reasonably expect a fair return for your labor].

SIR,—Can you give me any plan for making a cheap refrigerator to keep meat in during the summer? Those that are generally presented for sale are too expensive to be within reach of every farmer, and then any one with a mechanical turn of mind can make one during the winter, when he has not much else to do, and thereby save a good deal of expense. Can you also give me a good plan for stabling under a barn that I intend to build 60x120 feet, to have stabling for about fifty head of cattle, and if I could make a place in it in which to store ensilage; the foundation is to be stone? By answering the above you will greatly oblige.

J. A. St., Riverdale Junction.

[On page 32 of the ADVOCATE for February, 1881, will be found an excellent representation of a large refrigerator. Mr. Brice, of Toronto, could doubtless give you instructions how to make one. Our space and time will be fully occupied for the next few months, and we should have to engage an architect specially to prepare the plans, which would probably not be of general importance. On page 201 of the ADVOCATE for September, 1879, is an excellent plan of barn, which any practical man could enlarge or alter to suit.]

SIR,—I have a young orchard of 6½ acres of plums, apples and grapes, about six years planted; I live at Meaford, where a great quantity of fish—salmon, trout and whitefish—are caught during the fall. Any amount of offal from these fish can be procured as a manure, and I have been taking advantage of it for my grounds, but I am afraid of going too far with it and damaging my young trees. Can you advise me what quantity I can put on without damaging results? If you cannot tell, can I use the ADVOCATE to find out from those of your readers who can?

T. P., Meaford P. O.

[We know fish manure to be very valuable, but have no doubt that excessive application of it, like any other fertilizer, would prove injurious. We have no personal experience of its use. Perhaps some of our readers in the Maritime Provinces who use fish for manure would let us have their experience.]

SIR,—1st. Is gas lime a good fertilizer? 2nd. What properties does it contain? 3rd. Will it produce better results mixed with compost some time before using, or applied directly to the seed bed? 4th. If mixed with compost containing nitrogenous matter will it fix the ammonia, or cause it to escape, or what effect will it have? 5th. Should it to produce the best results, be applied at once, or exposed some time to the atmosphere, to allow deleterious gases to escape, if any? 6th. State how it should be used to produce the best results; state the best way to use gas liquor as a fertilizer.

J. N., Charlottetown, P. E. I.

[1st. Gas lime used in moderation is an excellent fertilizer. 2nd. It contains nearly all the good elements that lime contains with the addition of sulphur and sulphuric acid. 3rd. It will be better for mixing with compost. 4th. Like other lime, if mixed with nitrogenous matter will assist in the escape of ammonia. 5th. An excellent method of applying it is to team it on the land when covered with snow and spread thinly at the rate of about two wagon-loads to the acre. If more than that quantity is used it will destroy vegetation. Spread thinly upon old worn out grass land it will be found very beneficial. We have had no experience in the use of gas liquor as a fertilizer.]

SIR,—I would like to know in the next number the best crop to use gas lime with, and its value compared with common lime? A SUBSCRIBER.

[See our reply to J. N. Gas lime can be used with benefit to any crop and compared with common lime is little inferior, but as it contains a deal of sulphuric acid it must be used sparingly, otherwise it will burn up all vegetable matter which it comes in contact with.]

SIR,—Would you be kind enough to tell me through your valuable paper what a weed hook is like. I want to attach one to a plow to turn under clover and other green crops.

H. M., Bowmanville, Ont.

[We have not a plan of a weed hook which we have seen. Many use for the purpose a chain attached to the beam, and some use a roller to break down the weeds before the plow.]

SIR,—An answer to the following query will oblige an old subscriber: I have had an argument with what I consider a crank on the subject of feeding cows in winter. He contended that a cow fed entirely on straw, and nothing else, would be as fat in the spring as a cow fed entirely on hay. We have a small bet on the subject, and the decision is to be left with you.

J. R. McL., Vankleek Hill.

[Although many cattle winter well upon good, well saved straw, and turn out in good condition in the spring, yet those fed upon good hay during the same period are sure to turn out better. Oat straw contains only 30 per cent. as much fattening matter as timothy hay.]

SIR,—I would like to know the best way to kill Canadian thistles? I would like to know the best remedy for curing ring-worm on cattle?

J. B., Wanstead.

[To prevent the growth of Canadian thistles, never suffer them to appear over ground, as it is absolutely necessary for all plants to breathe and obtain food from the air; we have frequently referred to this subject. To cure ring-worm on cattle clip the hair close on the affected part and paint with iodine, or a solution of corrosive sublimate (40 grains to 1 pint of water), or bisulphide of soda (½ oz. to 1 pint). As this disease is infectious the cattle affected should be kept separate.]

SIR,—I would like some information in regard to the red Brazilian and the improved large white French artichokes, if they are good to feed hogs, and how many bushels can be raised to the acre? Please answer in your next issue, for we can't do without the FARMER'S ADVOCATE AND HOME MAGAZINE.

J. M., Bramer, P. O.

[There is such a diversity of opinion about growing artichokes that we hesitate giving an opinion favorable or unfavorable. They will yield from 500 to 1,500 bushels an acre. Whether they are of any value for stock feeding is a disputed point. There is no difference in the value of the different varieties.]

SIR,—I think you would do well to warn the farmers of Ontario, the majority of whom are keeping too much land in crop. I remember about

forty years ago, when starting farming for myself, I used to have nearly all the cleared land under the plow, but the result was not satisfactory, when I at once decided that one-half under the plow, the other on the green side, would give better results, and, after trial of thirty years it has never disappointed me, and have always been able to show a satisfactory balance sheet. With too much land in crop it is certain soon to become covered with foul weeds and small crops; with the other system the very reverse.

T. C., Whitby, Ont.

SIR,—Would you please tell me through the ADVOCATE if there are any of the sulky binders that you could recommend to farmers.

Alex. Mc., Chippewa.

[We are unable from our own experience to recommend any of the sulky binders now in use.]

SIR,—“R. A. B.,” of Cherry Grove, is asking the directors of the Western Fair to make a change in the mode of exhibiting horses. He wants the doors left open from 11 till 3 o'clock. Now Mr. “R. A. B.,” that is all very well, but when are the men that have those horses to have their dinner? Are they to leave the doors open with their animals at the mercy of everybody with sticks and walking canes to probe them as they please? I, for one, as an exhibitor, have had to prevent some unscrupulous visitors from doing such. And again, from 11 until 3 o'clock the flies are so very annoying, that if the stables are kept dark the little pests are not so bad. If Mr. “R. A. B.” was an exhibitor of horses he would find, as I do, not one man out of fifty would be like himself, that would go 20 miles with a mare in the spring, but hundreds that won't go five miles. I have been leading horses 25 years, and I don't think that the fall shows make much difference to the spring business, and perhaps if you go to bind exhibitors too much you will find them as scarce as visitors, and without exhibitors their certainly will be no visitors.

If the directors could only select men that would give honest judgments, not as they did last fair in the imported heavy draught class. I contend there are plenty of good, honest farmers in the counties of Middlesex, Huron and Perth well qualified to give honest judgment, without taking jockeys and jobbers to do that work, for those men always have their pets. I, for one, would have put in a protest last year, but I disdain to do such work, and I told some of your directors that was the reason I did not. Hoping that you will insert these few lines in your next ADVOCATE.

T. E., St. Mary's, Ont.

SIR,—I am receiving from a pork packing house some of their refuse, blood, &c., shipped in hogsheds. How ought it to be treated and used? Also have a dead horse; can the carcass be made into fertilizing material that is in some way practical for a farm? I have abundance of coarse feed, turnips, oat straw and corn fodder for more stock than I have got, but have not enough feed grain. Now, if I buy store cattle, I must pay high prices, too high, and then pay do, for meal. Then as to best to get, peas at 75c. when ground, crushed oil cake at say \$35, or cotton seed meal at \$35 per ton; which will pay best in the end? Lambs not sold; will they pay for good feeding as well as cattle, and if so what meal for them? Am now giving them good hay, turnips and oats.

H. M., Paris, Ont.

[Garbage from packing houses is one of the best fertilizers for garden or farm, mixed with compost or spread upon the soil and plowed in with a light furrow. In fact we know of no more valuable manure. A dead horse can be converted into a very valuable fertilizer by placing it in the corner of the field in which the fertilizer is to be applied, and covering it over with a few loads of barnyard manure. In a few months it will become decomposed, and the bones will become so soft as to be easily broken with a fork or spade. The whole can then be mixed with a few more loads of dung and applied to the land. About two cords of dung will be sufficient to decompose the animal, and of course it will take a little longer for the process in the winter than in the summer. Another good method, if you have hogsheds, would be to cut the animal into chunks and place in the barrels; then pour on some sulphuric acid and water, leave

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it so for two or three weeks, then stir up the mass and in a few days add wood ashes or gypsum, sufficient to absorb the moisture, and mix thoroughly, when you will have a quantity of excellent superphosphate, prepared at a very cheap rate. Having so much coarse feed, grain will not be required unless for fattening stock or cows giving milk. Store cattle will winter and thrive upon the food which you have in abundance. A little oil cake in addition to ground peas will be found more valuable and economical than peas alone. Lambs, if fattened, will pay well. There is an increasing demand for lamb and mutton; prices are higher than we have ever known them, and they are in great request both for the English markets as well as for home consumption. If you possess in the spring a flock of well fattened lambs, exporters will soon find you and take them off your hands.]

SIR,—I want to get some Jersey Red Swine; would like to know the best place to get them.
C. VAN P., Dunboyne.

[Advertisers please note the above and make known if any for sale.]

SIR—Do you know anything about a spring wheat called the French Wheat? There was a man at Kingston fair selling it at 50c. per lb. It has a very thick set head of large grains with long dark colored beard. Any information about the wheat will much oblige.
S. S.

[Those of our acquaintance who have tried the wheat you describe pronounce it a failure.]

SIR,—Are the White Leghorns considered the best egg producers; if not what variety is? Will the early hatched pullets lay the following winter if well cared for through the summer, and have warm compartments for winter with good feed?
A. H., Cataract, Ont.

[We do not consider the White Leghorns the best layers. They have the reputation of laying a large number of eggs and being non-sitters. Our experience of them is that they cease laying for a time and take a rest, whereas most of the other varieties would hatch out and rear a lot of chickens during the same period that the Leghorns would be resting. In our opinion there is no class of fowl to beat the Dorkings for all purposes. Chickens hatched out early, say April or May, should lay the following November, if at all well cared for.]

SIR,—We notice in answer to a correspondent you say the duty on fruit trees is 20 per cent. This is not quite correct. The duty is specific on the following stock: Apples 2c. per tree, pears 4c. per tree, plums 5c. per tree, cherries 4c. per tree, peaches 3c. per tree. All other stock is 20 per cent. *ad valorem*.
SUBSCRIBER.

Abuses.

SIR: I am greatly pleased to see you so independently outspoken with regard to the numerous abuses to which some classes of the community are exposed. An ample example is that you refer to where the Messrs. Waterous & Co. are compelled to pay the full duty upon imported raw material which they alloy and then export in its manufactured state. If one party has a right to a rebate most assuredly another has an equal right to a like consideration, though his calling may be a somewhat different one. "Render unto Caesar that which is Caesar's" is a very old injunction and an equally just one. Now, in its application it strikes the writer that Caesar is a citizen, and as such is entitled to certain rights and privileges. But are not all citizens supposed to enjoy equal rights and privileges unless such have previously been forfeited? It seems that farmers are specially put upon in particularly unjust forms, and the more enterprise evinced and the more self-denying they are, the greater the injustices they are subjected to. A practical illustration is at hand. The writer knows of a case of quite recent occurrence where an enterprising stock man undertook to import a few hogs specially for stock purposes, but was turned back by the custom officials, owing to an order in council prohibiting the importation on account of contagious diseases. Now, while this was conceded as right and proper by the party himself, though he had been put to much unnecessary trouble and expense, it was a gross injustice to him to allow the pork-packer at the same time to override such order and bring in hogs by the car load

for slaughtering purposes, but not as breeders. Few will fail to see the absurdity in this case, because if there was a liability to bring in disease with a few pigs, surely that liability would be increased just in proportion as the number brought in for slaughtering might exceed those for breeding purposes. Indeed, the danger would be much greater, because the wideawake stock-breeder always has an eye to the health of his animals and it would be sheer lunacy not to guard rigorously against disease, and in the case referred to a certificate of health had been first obtained; but this availed him nothing; he was obliged to send them back to the States. Most certainly, for the avoidance of injustice, special provisions should be made for special cases. Another example of gross injustice to the farmer is permitting the miller to import American grain in bond, grind, and then export it and receive a rebate of duty, while the farmer who brings it in, manufactures it into beef or mutton and exports it in its manufactured form has no show whatever for a rebate. Is not the one as much and as really a manufacturer as the other? And as such has he not an equal right to the same consideration as the other? Indeed, all things considered, the farmer is the greater benefactor of the two to his country, because he gives the miller employment in chopping his grain, keeps the manure in the country and receives a handsome profit on his exportations. Thus, in the farmer's case, three profits actually accrue to the country, viz., the enriching of the soil, the amount paid to the miller and the profit on the beef sold; while, in the other case, there was only the profit to the miller for grinding, and perhaps an advance in the value of the material. Yet the greater benefactor to his country has to be bled just in proportion to his enterprise, while the lesser receives a premium. Is this justice? Is this rewarding according to their works? Is it not, therefore, high time that men laid aside their partyism and joined in giving the wheel of justice a few revolutions? Another gross injustice is perpetrated upon the farmer in this: he is not only compelled to pay a duty upon his imported feed, but upon his imported seed too. Surely it is a great benefit to the country to introduce new cereals and other farm seeds. Then why not encourage these benefactors rather than discourage them? Nor does the injustice end here; for after the farmer has paid the duty upon his feed and manufactured it into wool, the wool-growers of other countries are permitted to bring in their cheaply-grown article, free of duty, and compete with us in our own market. Where, I ask, is the justice of such conduct on the part of our legislators? It may be asserted that we ought to grow our own feed, but can we not grow our own wool also? But just here we are told that our manufacturers require more wool than we produce, and is this the way to increase and encourage the growth of the home article, by handicapping our producers? Again, do not our manufacturers of beef and mutton stand in as great need of the imported article to keep their factories running as our woolen manufacturers do? Pray, is it not just as reasonable to expect our woolen manufacturers to grow their own wool as to expect our beef and mutton producers to grow their own grain, especially when they can do so much better by giving their whole territory and resources to the production of these two and buying their own grain? Let there be a little reason exercised by the powers that be. If the farmer must in every case grow his own grain to keep his own factories running, then let the miller produce his also. Here it may be asserted that it is the business of the miller to manufacture other people's grain produce, and if he chooses to do so, is it not just as much the business of the feeder to use other people's grains, too? Is not the one as free and independent as the other? Has not the farmer as good a right to follow the dictates of his own judgment and intuition as the miller? If the one must import to supply his own requirements, then why not permit the other to do the same and upon the same terms? Let the reader ponder well these questions. Another gross injustice to the stock farmer lies in our present system of assessing his property. All farmers are supposed to pay taxes in proportion to the value of their holdings. Then, in addition to this, the stock man has to pay upon every hoof his farm produces, while the other pays nothing upon the produce of his farm. Is there not a much greater danger of wheat being stolen than stock? Then why not make the owner bear his share of the expense of protecting his property against thieves? Why make our stock men pay an undue proportion of the cost of administering our criminal laws?
LYNX EYE.

The Provincial Agricultural and Arts Association.

SIR,—In answer to your question "What shall be done with the Provincial Agricultural Association?" I would say by all means stand by it; if it has faults and failings seek to remedy them. A very important step in this direction has been made by reducing the number of the Board, lopping off the long list of ex-officio members, and thus lessening the expenses while securing more efficient services. Let our farmers follow this up by seeing that practical experienced men are elected to fill the vacancies as they occur in the divisions, three of which become vacant every year, and if new blood is needed, see that it is introduced, as it can be. And right here let me say that the farmers of Canada will make one grand mistake if they throw away the only Provincial representative institution they have, with all its historic associations and records.

Let us have one grand exhibition, controlled by agriculturists, free from the power of grasping monopolists and centralizing tendencies. With all its faults it is the best thing of the kind we have. Let us improve it. Who does not attach more importance to a Provincial award than to a local one? It has been my good fortune to be permitted to attend every Provincial Exhibition held in Ontario since 1856, and to be an exhibitor at all but two in that time. I feel that our agricultural history as a Province is bound up with our Agricultural and Arts Association, and I mistake the temper of the farmers and breeders of Ontario if they are going to be bamboozled by self-interested parties into the abandonment of their grand old Provincial Fair. What does the grant of \$10,000 amount to by the Government of this rich agricultural Province? It is a paltry sum compared with the magnitude of the interests it is identified with and which it is intended to develop, and then its own money, expended for the benefit of our own people, and confined to no one section of the Province. Give it up—never!
J. C. S., Edmonton, Ont.

SIR,—In answer to your enquiry for the experience of any person who had tried sowing rape to destroy thistles, I did it, but found that it did not destroy the thistles.
W. W., Ranleigh.

SIR,—In this Province many are recommending deep cans for setting the milk in for the cream to rise. They hold about 20 or 25 quarts each. They are covered tight and placed in a cold spring or ice water nearly to the top. Many persons that have used them say the cream will all rise in 12 hours, make about one-third more butter, a better article, and leave the milk sweeter for calves or pigs than by the old method of shallow pans. I should be much pleased to hear your opinion.
L. P., Andover, N. B.

[The deep cans you describe are much superior to the old fashioned dishes, and are much appreciated by those who use them.]

SIR,—Could you in the January number give the name of any firm that manufactures a potato digger?
S. J. C., P. E. County, Ont.

[A really efficient potato digger would be a great boon to farmers of this Dominion. We are not aware of one being made in Canada. If there is we wish that the maker would make it known through the columns of this paper.]

SIR,—I shall be much obliged if, through the ADVOCATE, you can recommend me a practical work on apple culture and general management of orchards.
F. A. H., Leeds Village, P. Q.

[Barrie's Fruit Garden, \$2.50. It is in our book list.]

SIR,—Kindly give me your opinion of Kendall's spavin cure, also of his book upon the horse.
W. H., Oshawa, Ont.

[Like all other nostrums, the advertisement is the best part of it, and as for the treatise upon the horse, those of our acquaintances who have read it do not entertain a very high opinion of its merits.]

SIR,—In your December issue of the *ADVOCATE*, I notice an article respecting the profit arising from the change of seed wheat, and especially from a long distance, for the last two seasons. I have imported a quantity of seed wheat of the White Russian and White Fife varieties, from George McBroom, London, Ontario, grown by R. Rivers, Walkerton. Last season I imported about 300 bushels and it yielded handsomely, averaging 14 bushels from one sowing. Some parties reaped as high as 20 bushels from one sowing on choice land. Farmers on this Island are beginning to be alive to their interests by changing their seed oftener, and especially their wheat. Manure is one of the great wants of this Province, as the artificial manures, such as plaster, bone-dust, etc., have proved to be of little or no value to the farmer, who has had recourse to lime or mussel-mud. The latter is eagerly sought after, to judge by the thousands of loads dug every spring, and also as it gives the grain and straw a brighter appearance, loosens the land better and remains longer in it than the lime or any other manure tried on the Island. If the *FARMER'S ADVOCATE* was better patronized there would not be so many poor farmers, as farmers require a stimulant as well as the land.

A. G., Little York, P. E. I.

SIR,—I like your paper very well. You have made great improvements since I first took it. I hope you will still go on and prosper, still advocate the keeping up of the Provincial Exhibitions, and continue to denounce with all your might those mountebank shows that are so much in vogue now in connection with our agricultural exhibitions. It is no credit to the directors or managers of our agricultural shows, that they allow them to come within, or near their exhibition grounds. Hoping you will still continue to maintain and advocate the right, and denounce fearlessly what is wrong.

J. W., N. Dumfries.

SIR,—Please inform us in your next issue of the *FARMER'S ADVOCATE* the best wash for the bark of apple trees.

G. A. R., Wyoming.

[A good wash for apple trees can be made of strong soap suds with the addition of a little carbolic acid. The trees should be scraped before applying the wash.]

SIR,—I have a Durham bull coming three years old, which I want to fatten for shipping. At present I am feeding him a mixture of barley and oat meal, about 14 pounds daily, and one-half bushel of mangles. Would you, through the columns of the *ADVOCATE*, let me know what is the best and most economical way of feeding him.

SUBSCRIBER, Middlesex.

[Gradually increase the quantity of roots to about 90 pounds, which should be sliced or pulped, and feed three times daily, mixed with about 6 pounds of meal and 1 pound of oil cake or cotton seed meal at each ration, and give the animal all the good hay he will clean up. Use whatever description of meal you have on hand.]

SIR,—How must I proceed to get thoroughbred Jersey calves entered in A. J. C. C. H. R.?

G. L. K.

[Address T. J. Hand, Secretary, 49 Cedar street, New York, for information.]

SIR,—I enclose my tenth subscription to the *FARMER'S ADVOCATE*. I saw the *ADVOCATE* advertised in the *Montreal Witness* at a clubbing rate with that paper, but I thought I would send mine direct to you. I think it looks rather small on the part of old subscribers to take such advantage, but if the *ADVOCATE* can be published for less than \$1, why not remit direct to you. But I think it is a dollar well laid out, and I think no one should object to the *ADVOCATE* at that price.

P. P. F., Dalling, P. Q.

"I have been a subscriber for the last eight years, and am well satisfied with it. By taking the advice of *THE ADVOCATE* one year in selling my wheat I made enough to pay for it for a good many years to come. And then, there is always something new in it; so I don't want to be without it.

Beamsville, Ont

J. H. M."

Essay.

ON THE BEST SUGGESTIONS FOR THE IMPROVEMENT, AND THE ADVANTAGES TO BE DERIVED FROM MONEY GRANTED BY GOVERNMENT FOR AGRICULTURAL AND DAIRY INTERESTS.

(Part Second.)

Some better and more favorable arrangement might perhaps be made with the Government to the country in a modification of the Drainage Act, draining being one of the fundamental principles of agriculture. And a clause might perhaps be inserted by which private individuals might be assisted in tile draining, but no change should be contemplated that would take from the Government more than one half of the proposed outlay; the county, township, or individual benefited should in all cases pay their share, as well as the interest and sinking fund, on the principle that anything worth having is worth paying for. There are still many places in Ontario which are at present worthless, but which could be reclaimed by drainage and made to grow as good, and in some instances better crops than are produced on our best lands.

Besides drainage there is another means of developing our agricultural wealth and advancing our dairy products, a means which has been adopted, to a large degree, by both Governments and private individuals in older countries and in the neighboring republic. The reclamation of waste or submerged lands is the object alluded to. There is one block at the mouth of Baptiste Creek and the river Thames covering an area of some 30,000 to 50,000 acres of the finest land in Canada, lying in that region where the climatic conditions are the most favorable for cereals and fruits, and for the rearing of cattle and the making of pastures. This tract now breeds nothing but poisonous malarial fevers and the pestilential mosquito, who in his season, as Mark Twain says, "hums as he toils." This land is now valued at 50 cents per acre, and is only partially of use for cattle runs; hay and litter are also cut from it, but only in certain dry seasons when the water subsides sufficiently to enable it to be walked over. A fine alluvial deposit stretches here for miles, resting on a marshy clay subsoil, which only awaits the hand of man to raise a dike about it so that the spring freshets may be kept from overflowing it, and erecting pumps, to be worked by either wind or steam, to eject the surplus water in the first instance.

What is chiefly required of the Government is the passage of an act to enable the land owners in this district to build their dikes across existing concession roads, as it would have to be continuous along the low marshy ground. Some assistance might afterwards be required in the shape of a steam dredge to raise the embankment, and erect suitable pumps, but it is thought this would be chiefly done by capitalists interested, as the price of the land when it is put into a dry state would be increased from 50 cents to \$100 per acre. One of the great objects gained would be the freeing of a large tract of country from the effects of malarial fevers. The land when reclaimed would be especially useful for pasturage and dairy purposes.

Whilst discussing the various methods of freeing land from water, the advantages of irrigation must not be lost sight of in a climate like that of Ontario. It is a matter for grave consideration whether the Government should not erect works of a tentative character, with the view of testing its advantages. Some of the ablest writers on agriculture on this continent, claim that there is not by any means sufficient moisture during the hot summer months to swell and bring to perfection our fruits, grasses and grains. Thomas Mehan,

the able editor of the *Gardeners' Monthly*, Germantown, Philadelphia, says: "Any one having the power of turning on at will a supply of water when the clouds are not propitious, is certain of wealth."

It is not possible to go into the merits of irrigation in a paper of this kind, or to devise the best means for carrying it out, but it will easily be seen that plenty of water employed on growing crops during our short hot summers would materially increase the yield of most of our field products, especially those of our meadow lands. It will be seen by the following statistics that the grass crop is of more value than all our other farm products. It is estimated that

The value of the hay crop is.....	\$27,300,000
" " dairy products.....	40,000,000
" " lambs, wool and pasturage	10,000,000
" " increase in other live stock	20,000,000
Total.....	\$97,300,000

Ontario is provided with any quantity of water, and much of our rainfall is wholly lost, falling as it does at a season of the year when it is to a certain extent useless, the ground being so hard frozen that it cannot penetrate. At such times the water should be stored and kept for seasons of drought. To throw streams out of their course or raise water from our lakes is only a matter to employ the ingenuity of the hydraulic engineer. Moister climates than ours, with less sun heat, such as Spain, France and England, have all been benefited. Countries also with a less civilized population than our own have solved the mystery of adding moisture to the soil by artificial means, and the time is fast approaching when some experiments should be gone into to assist in developing the wealth producing and life giving power of water to growing plants.

Racing appears to be overdone in England, as well as in some other countries. An English paper says: The failure of the Liverpool meeting was complete and ignominious. About £3,000 was added to the various events, and the average of the fields was under four. It would be in vain to search the volumes of "Races Past" for an example of a handicap to which £500 is added attracting but four starters. After this collapse, surely the managers will recognise the propriety of their forthwith abolishing this "fixture," and they will do well to do their best to improve the character of the sport at the spring and autumn meetings, which of late has left much to be desired.

A goat farm has been started by the Express Dairy company (limited), of Bloomsbury Mansions, for the purpose of furnishing the London public with a valuable article of nursing and restorative diet, which medical men of the highest eminence are every day recommending for infants and invalid patients, but which is nowhere readily procurable at any time for a reasonable price. Next to asses' milk (most difficult to find, except at a very high price, and then extremely limited in the supply), goat's milk approaches in composition most closely to mother's milk, and has remarkable nutrient and invigorating properties, especially for saving weakly infants and for restoring strength to consumptives.

In a speech at the Dublin show, Canon Bagot stated that "a large quantity of butter in this country (Ireland) was injured by over churning. When the butter was formed the churner should stop. It was a mistake to wait until it was collected into lumps, and he ventured to say that this was the method pursued in one out of every two cases in Ireland. Another fatal mistake was that of keeping the cream after it was fit to churn. Persons were in the habit of attending to other things first, and in the matter of churning left out of consideration altogether the proper time to churn the cream." These remarks are quite as applicable to this country as to Ireland, altho' our butter-makers have much improved in their methods during the last five years.

A successful Iowa pig-raiser says young pigs just weaned are sometimes over-fed in the desire to give them enough. When their sides distend they have too much. Hogs should not be over-fed just because they are hogs.

Farming for Boys.

BY THE AUTHOR OF TEN ACRES ENOUGH.

CHAPTER X.

Having a Dozen Friends.—Killing a Snake.—Cruelty
 Condemned.—Lecture on a Worm-fence.—Value
 of Agricultural Fairs.—A Returned Adven-
 turer.

The party soon took their departure. As this was the first time that Uncle Benny had been over Mr. Allen's farm, he was proportionately surprised at what he had there seen and heard, and felt vexed at himself at having thus long overlooked so useful a school of instruction which stood open almost at his very door. But he treasured up the valuable hints he had received, and was ever ready to set before the Spangler boys the strong moral of the example they had so fortunately witnessed. The incidents of the afternoon formed the staple of their conversation during a slow homeward walk. Tony King had been powerfully impressed by them. They seemed to operate on his young mind as discouragements to hope, rather than as stimulants to perseverance and progress. He had let in the idea that the distance between his friendless condition and the prosperous one of Mr. Allen could never be overcome by any effort he could exert. In this frame of mind he suddenly exclaimed, looking up to Uncle Benny, "how I wish I had some friends to help me on!"

The old man stopped surprised at this explosion of discontent, and replied by saying, "Tony, you have a dozen friends without appearing to know it."

"Who are they?" he eagerly inquired.
 "Hold up your hands!" replied the old man. "Now count your fingers and thumbs. There! you have ten strong friends that you can't shake off. There are your two hands besides. What more had Mr. Allen, or the little pedlar that sold you that knife? They began with no other friends, no more than you have, and see how they have carved their way up. If you can't use this dozen of friends to help you on in the world also, it will be your own fault. It will be time enough for you to pray for friends, when you have discovered that those you were born with are not able to provide you with what you may need."

Before Tony could reply to this home thrust, a little garter snake, only a few inches long, came running across their path, directly in front of the boys. Bill Spangler, observing it, cried out "Kill him! Kill him!" and Tony also noticing the delicately striped little creature, as well as that it was hurrying out of the way as quickly as it could, instantly jumped on it, and with his heavy boot stamped it to death with one blow.

Now, in most men, and certainly in all boys, there seems to be an instinct that must be born with them, which impels them to kill a snake whenever he happens to come within reach of boot or stick. If not a natural instinct, descending to them from our first mother, it must be one of those universal propensities that boys learn from each other with the ready aptitude of youth, and with a sanguinary alacrity. It is another great illustration of the strength of the imitative faculty among our boys. It is of no moment what may be the true character of the poor wriggler that happens to cross their path, whether venomous or harmless; the fact of its being a snake is enough, and if they can so contrive it, it must die.

It was this propensity that caused Bill, the youngest of the three, to shout instantly for the death of the little garter-snake, and impelled Tony to spring forward, with sympathetic promptness, and stamp its life out. There was not a moment's pause for thought as to whether the creature was not in some way useful to man, nor had either of the boys been taught to remember that, even if a living thing were of no use, there was still room enough in the world for both them and it. Hence, no sooner had the snake come within sight than its fate was sealed.

Uncle Benny did not belong to that class of men who think themselves justified in killing insects or reptiles wantonly, merely because they happen to be disagreeable objects to look upon. The slaughter of the poor snake had been accomplished with so much suddenness that he had no time to interpose a good word in its behalf, or he would have gladly spoken it. The act was therefore a real grief to him, not only from pity for the harmless creature whose body still writhed with muscular activity, even after consciousness of suffering had departed, but because it showed a propensity for inflicting needless pain on the unoffending brute creation, which

he had never before seen developed in these boys.

"That was very wrong, boys," said the old man; "that snake did you no harm, nor could it injure any one. On the contrary, these field snakes of our country are the farmer's friends. They devour insects, mice and other enemies to the crops, but never destroy our fruits. They do not poison when they bite. They are not your snakes—you did not give them life, and you have no right to take it away. There is room enough in the world for all living things that have been created, without a single one of them being in your way."

There was a peculiarity of Uncle Benny's mode of correcting the bad habits of the boys he was careful to avoid a continual fault-finding. His idea was that rebukes should always be couched in soft words, but fortified by hard arguments, and that, to make censure most effectual it should be mixed with a little praise, whenever it was possible to smuggle it in.

Somebody has said that, "when a fault is discovered, it is well to look up a virtue to keep it company." This was Uncle Benny's view of things. In fact, he was generally as careful to express approbation of good behavior as disapprobation of that which was bad. He believed that any one could do a casual act of good-nature, but that a continuation of such acts showed good-nature to be a part of the temperament, and that even a temper or disposition which was naturally sweet and equable might be soured and made morose and and petulant by incessant fault-finding.

Hence he never was guilty of a regular scolding, but preferred persuasion, with an effort to convince the judgment by argument, and illustrations drawn from facts so plain that they could not be denied. His practice was thus found to be so different from the discipline of their father's kitchen, that they bore any amount of the old man's pleading and argumentation without ever becoming ruffled in temper or tired of listening. But his frequent readings were probably the most popular part of the many discourses he felt called upon to deliver to them.

It has been an eventful afternoon for the boys. They were continually speaking of the novelties they had seen, and wondered how it happened they had never known of them until now, though living only two miles away, and resolved not only to go again, whenever they had time, but to get Uncle Benny to take them to some other farms in the neighborhood, that they might see what was going on there also. They felt that they had learned much from this single visit, and presumed that visiting in a wider circle would be equally instructive.

Uncle Benny said, in reply to this, that he was glad to see they were thinking so sensible, and to find that their curiosity had been sharpened. He would gratify it as far as might be within his power. He told them the way to acquire knowledge was to go in search of it, as neither knowledge nor profit came to a man except as the result of some form of effort to obtain it. He explained to them that it was for the purpose of disseminating knowledge among farmers that agricultural fairs were annually held all over the country. They had never attended any, but he would tell them they were great gatherings of farmers and others who had something to exhibit or to sell. Thousands of people attended these fairs, some for amusement only, but hundreds came to see if any new or improved machine was on exhibition, or a better stock of cows, or sheep, or pigs, or fowl or a fine horse, or any superior variety of fruit or vegetables. If they saw what pleased them they were pretty sure to buy it. At any rate, they did not fail to learn something valuable, if they made no purchase. They saw, gathered up in a small compass, what was going on in the farmer's world, and this within a single day or two. Thus they accumulated a fund of knowledge which they could not have acquired had they remained at home.

On the other hand, these county fairs were quite as advantageous to the parties who thus brought their machines, or stock or vegetables to be exhibited. Many of them manufactured the machines to sell, and so brought them where they knew there would be a crowd of farmers in attendance. It was just so with other articles exhibited. There were customers for everything on the ground. Even those who came to make sales were benefited in other ways. They made new and profitable acquaintances. This gave them a knowledge of men which they could not have acquired had they not gone to the fair in search of it. Thus there was an extensive interchange of information and ideas between man and man, for no one could be expected to know everything. Hence such gatherings as

these county fairs were highly beneficial to the farming and manufacturing community; and it might be set down as a good rule, that a farmer who felt so little interest in his business as never to attend an agricultural fair would commonly be found far in the background as regarded progress and improvement.

"Couldn't you take us to a fair, Uncle Benny?" inquired Tony.

"Certainly," replied the old man, "if we can get permission."

"And won't we take Nancy and the pigs?" demanded Bill.

"Yes," interrupted Tony; "Somebody will buy them and give a good price."

"Sell Nancy?" demanded Bill, with a fire unusual to him. "You shan't do it. I won't have Nancy sold."

"Well, never mind Nancy," responded Tony, "we'll take the pigs and the pigeons."

"Not all of them, anyhow," replied Bill, almost beginning to cry at the mere mention of letting Nancy go, while the dispute went on in so animated a style as to fairly startle the old man.

"Stop, boys," he interposed. "There is time enough for all this. There is no hurry about the matter. The fair will not be held for several months yet, and you don't know whether Mr. Spangler will let us go. Wait a little longer, and I will settle this thing for you."

The mere suggestion of their not being permitted to go to the fair was an effectual check to this unusual effervescence, and the whole party relapsed into silence. But from this they were presently roused by the near approach of a traveller, whom they had noticed for sometime in the road before them. No one appeared to recognize him; but when he came within hailing distance of the company he took off an old cap, waved it over his head, and shouted, "Hurrah! Uncle Benny! Back again to the country!"

The party were taken by surprise, but when the speaker came close up to them they saw who he was.

"Why, that's Frank Smith, sure enough! I didn't know him," exclaimed Joe Spangler; and then there was a crowding up to him and a general recognition and shaking of hands.

"Why Frank," said Uncle Benny, "we're glad to see you. But what's the matter? What's brought you back?"

"Got enough of the city—sick of the dirty place, and never want to see it again," he replied. "Put me among the Allens once more, and blame me if you ever catch me quitting the farm as long as I live. I'm pretty near to it now. How nice it looks! Tony, don't you ever think of going to live in the city?"

Here was a most unexpected conclusion to their afternoon's diversion. The boy before them, Frank Smith, was a lad of fifteen, an active, intelligent, ambitious fellow, an orphan nephew of Mr. Allen, who had been taken by his uncle, when only ten years old, to be brought up as a farmer. He had been clothed and educated as his cousins, but for two or three years his mind had been bent on trying his fortune in the great city. No persuasion could wean him from his darling project, and becoming restless and dispirited under what he considered the monotonous routine of the farm, Mr. Allen finally yielded to his importunities, and permitted him, the Christmas previous, to try for himself how much better he could succeed in New York. He fitted him out respectably, paid his fare on the railroad, and gave him a little purse of money with which to keep him clear of actual suffering until some profitable employment should offer. Thus equipped, he plunged into the great city, having learned no trade but that of farming, with only a general idea of what he was to do, and without a solitary acquaintance among the thousands who were already fighting the battle of life within its densely crowded thoroughfares.

He had been gone for months; but in all that time he had written but one or two letters home, and they said nothing that was encouraging, though they contained no complaints. The last one did say, however, that he wouldn't mind being back on the farm. It was clear, thought Mr. Allen, that he had been disappointed, and was not doing much. But as Frank had been told, when leaving home, that he was welcome to return whenever he had enough of the city, no pressing invitation was sent, in reply, for him to come back. It was thought best to let him sow all his wild oats at once. His pride being strong, he could not bring himself to the mortifying position of admitting by turning about and coming home, that he had committed a grave mistake, until driven to it by abso-

lute suffering. So he held out until holding out longer became dangerous, and there he stood in the highway, like a prodigal son returning to the parental household.

Frank was in no hurry to leave his friends for home, as it was now in sight, and he felt himself already there. Neither did he seem at all unwilling to give them as much as he then could of his adventures in the city, and so replied to their numerous inquiries as fully as he was able to. He was a frank, open-hearted fellow, without a particle of false pride about him, and so admitted from the beginning that he had made the greatest mistake of his life in insisting upon leaving the farm. He even called himself a great fool for having done so. But after all, he thought it might be a good thing that he had made the trial, as it taught him many things that he never would have believed possible unless he had gone through them for himself, and was a lesson that would be useful to him as long as he lived.

Though in reality he had but little to tell that would interest older folks, yet to the boys his story was particularly attractive. Going into a great city with no friends, but little money, and without a trade, he could find nothing but chance jobs to do. The merchants and shopkeepers refused to employ him, because he was a stranger, with none to recommend him for honesty. When they found he was fresh from a farm, some said at once he was not the boy for them—they wanted one who knew something. Others advised him to go home as quickly as he could, but not one offered to help him. He occasionally picked up a shilling by working along the wharves, but it was among a low, vicious and profane set of men and boys, with whom it was very hard for him to be compelled to associate. Then he tried being a newsboy, bought papers at the printing-offices and sold them about the streets and hotels, and other public places. But here he met with so many rebuffs, and was so often caught with a pile of unsold papers on his hands, that he found the business paid him no certain profit. The city boys seemed sharper and quicker, and invariably did better, some of them even saving money, and helping to support their aged or sick parents.

He went through a variety of other experiences that were very trying to a boy of his spirit, but, through exerting himself to the utmost, he made no encouraging headway. One of his greatest trials was being compelled to associate with a low, swearing, drinking class of people, and to live in mean and comfortless boarding-houses because they were cheap. He never had a dollar to spare or to lay up. It required all he could make to keep him alive. As his clothes became worn and ragged he was not able to obtain better ones. Still he was too proud to write home what he was undergoing, as he knew he had brought it on himself, and that it was exactly what his uncle had said would be likely to overtake him. Yet he was conscious of gradually becoming reconciled to the low and immoral set around him, so different from those among whom he had been brought up.

As he owned nothing but the old clothes in which he stood, it was an easy matter to leave the city; so one morning he started for home, with a few crackers in one pocket and a huge sausage in the other, but with the light heart of youth, made lighter still by the consciousness that strength had been mercifully given him to overcome a strong temptation. It was a long tramp even for his active limbs, but he went on joyously, and was never in better spirits than when he encountered the Spangler party in the road.

"But wouldn't you have got rich if you had stayed longer?" inquired Tony. "A great many poor boys in New York have become rich men."

"I don't believe it, Tony King," replied Frank. "Where there's one who gets rich, there are twenty that go to the dogs—that get drunk, or lie and steal, or sleep in boxes or hogsheads in the streets, and turn out vagabonds. I thought just as you think, that all the poor boys make money, and wouldn't believe my uncle when he told me that life in the city was the worst lottery in the world. But I've found it just as he said, only enough worse. Now, Tony, you want to go to the city, I know you do; you and I talked it over before I went, and you want to go now. But if you don't stay where you are you're a bigger fool than I was. You'll never catch me again leaving the farm to cry newspapers and black boots in the streets. I'm made for something better than that."

With this sensible admonition Frank bade his friends good-bye, and started off on a half-run for his uncle's house, as if impatient for the surprise which he knew his sudden appearance would occasion among the family.

Uncle Benny was not sorry that his three boys had received the full benefit of Frank's experience of city life, nor could he regret the tattered dress in which he had presented himself before them, as, if it were possible for eloquence to be found in rags, every one that hung about him became a persuasive witness to the truth of the experience he had related.

[To be continued.]

The Household.

Nursing as a Profession.

It is astonishing with what prejudice professional nurses are regarded by the majority of sick people and their friends. If any doubt this statement let them notice the ways of their own acquaintance. When any one is taken suddenly ill, the friends of the sufferer are most unwilling to seek for and profit by the services of a trained nurse. Wives and mothers, sisters and daughters, strain every nerve and perform prodigies of endurance rather than give over the care of a loved one to a stranger. "As long as ever I can keep up I will wait on him myself," is their brave but short sighted determination. And if notwithstanding all their efforts the assistance of the professional helper must be engaged, her new employers are sure for a while to regard her with dislike and suspicion, and look upon her as one who is to be watched and distrusted in every way.

An instance of this kind came under my notice the other day. A professional nurse was engaged to assist in nursing a gentleman who was seriously ill. His wife was most unhappy about this, and most unwilling to share her care with a stranger. For the first night or two she was quite miserable at leaving the sick man, listened anxiously for every sound, and as soon as ever she had an opportunity of speaking with her husband questioned him eagerly, "is she kind to you? Is she always kind and attentive?" But the answer was invariably in the affirmative. The nurse was as unlike Mrs. Gamp as possible. She was gentle and kindly, and yet so reliable and trustworthy, so exact in measuring out the medicine, so accurate in her reports of the sufferer's condition, so patient with his feverish irritability, possessed of so much forethought and presence of mind, that in a while suspicion and distrust disappeared entirely; they were changed into real regard and esteem. When the patient recovered the lady was quite unwilling to part with her new friend. She would gladly have kept her for a while, to give her rest and change; but no, the engagement had terminated; another sufferer required attendance, and the nurse went away to begin again her trying duty.

Fortunately for suffering humanity, the nursing profession is not what it once was. There was a time when the only women engaged in the work were ignorant persons, who were supposed to be specially adapted to it because they were poor and miserable and "had seen a deal of sickness," and were "experienced," or were possessed of all the superstitious notions which had collected round the sick bed and made even disease and death more horrible than they would otherwise have been. Now the professional nurse is thoroughly trained for the work she undertakes—trained in the only place where sickness in all its varieties is continually present—in the hospital.

This training in the hospital for nursing the sick is by no means to be lightly undertaken.

Not every woman is suited for nursing the sick. A woman is no more born a nurse than she is born a cook, or a seamstress, or a musician, or an artist. She may possess qualifications which when developed will make her an excellent nurse, but even then the special training can on no account be dispensed with, because the education given to a woman is not generally of a character that will do this.

A good nurse should possess the power of thinking accurately, or of concentrating her attention on one object. She should be thorough and reliable, with an unlimited stock of patience, cheerfulness and good temper. She should have unflagging energy and perseverance, be quick to perceive, intelligent to observe, and skilful to act; she should be able to exercise forethought, which is the faculty of being prepared, and presence of mind, which is calmness and collectedness in the presence of emergencies, and she should have steady nerves to enable her to do what is best. Above all she should be gentle, sympathetic, and unselfish. A very clever and experienced writer in addressing nurses said she could give no better rule than that the

nurse should put herself in the place of her patient. Gentleness of the heart will teach gentleness of the hand and manners, and those who are gentle in mind will soon learn to be gentle in action.

Miss Nightingale once said that in her opinion the very elements of good nursing are all but unknown. This is sad enough, for the knowledge spoken of is of a kind which every one ought to possess. Each one of us may at any moment be suddenly placed in a position where ignorance on our part would mean loss of life to those whom we hold most dear. How many people there are in the world who have suffered terrible fright and exceeding anxiety, and reproached themselves for being incompetent and useless, because they did not know what ought to be done in an emergency! Take a case of hemorrhage for instance.—It is most alarming to witness a flow of blood and not know how to stop it. Of course any one can rush wildly for the doctor, but till the doctor comes? The quiet, collected individual who with ready hand and steady nerve comes upon the scene, sees what is wanted and does just what is needful, is looked upon as a ministering angel. "What admirable presence of mind!" every one is ready to say. Yes, but there is more than presence of mind. There is knowledge of the right kind, the result of experience. It seems sometimes as if the world were rather hard upon those who in times of difficulty are not equal to the occasion. Sensible, strong-minded people are quite out of patience with the weak and excited individual who makes fresh work instead of doing what is to be done, and falls into a swoon or goes into hysterics instead of helping the sufferer. And to a certain extent they are right. The weak women who scream when there is an accident, or faint at the sight of blood, may very frequently be put down as selfish as well as silly. Too often they are useless and in the way because they cannot forget themselves. They are so occupied with their own sensations and astonishment and horror that they can do nothing. If they had learnt that most difficult lesson, abnegation of self, they would be collected enough. But it is not always so. Want of presence of mind is also due to this miserable consciousness—"I ought to do something instantly, and I do not know what." Many a valuable life might be saved that now is allowed to slip away, if only this essential knowledge could be more generally diffused amongst all classes of society.

But who ever else may have, or have not, the power of self control, the professional nurse must possess it. She must be able to keep calm, though all around her may be flurried, she must be collected when others are distracted, or she will prove herself quite unfitted for her work. And it is not given to every one thus to command themselves. Those who have the intention to become nurses and are doubtful of their power in this respect, would do well to pause before they undertake work, failure in the right performance of which would mean not only disappointment to themselves, but pain and injury and perhaps loss of life to others.

Incompetent, ignorant nurses have had a long reign, and they have been the cause of an abundance of suffering to poor humanity. But there are hopeful signs abroad. Amongst medical men it is a recognised fact that good nursing is a most important factor in the cure of disease; and to supply what is wanted numbers of ladies, as well as women of a lower class, are seeking the special training that is required. It would appear that in some quarters there is a prejudice against the admission of educated women to the profession. It is thought that they are conceited and not inclined to be teachable and obedient. This reproach is partly deserved, and every lady who enters upon the work should endeavor to remove the occasion for it. Probationers are received at the different hospitals, and they usually pay for their training. When they have gone through the course they in some instances receive a certificate, or they may obtain an engagement at one of the Institutions for Trained Nurses, and so enter on their work.

Any one who desires to train for a nurse could not do better than seek an interview with, or write the matron of the particular hospital she would prefer to enter; and these ladies are always willing to give any information that is necessary. Hospitals are established in every large town.

Nursing is grand work, and it calls for the exercise of great qualities. It is essentially a woman's work, for there are very few women who are not at one period of their lives or another called upon to engage in it. It is therefore most desirable that not only those who intend to enter upon it professionally, but that every woman should give thought to the subject and gain a knowledge of how it can best be done.

Family Circle.

Her One Chance: and His. (Concluded.)

It was Thursday, the sixth day of Mr. Sarmiento's stay. Other visitors had also been coming and going. Most of the leisure time of that gentleman seemed to be devoted to Miss Maverick, when he was not obliged by courtesy to devote it to others. He certainly enjoyed talking with her, their conversation often turning on her father and the years gone by. If she went on the beach, he would join her there; if she sat in the shady nooks in the garden, he would be sure to find her. At night she sang the songs he liked and asked for, and she sang very sweetly. Reginald Lanster felt that he should like to drown Mr. Sarmiento.

At which assurance Mr. Reginald went into his seventh heaven. "Miss Maverick," began Dot, that same day when the two girls were alone together, "do you know that mamma is disappointed?" "What at?" innocently asked Katherine. "At Mr. Sarmiento's going off in this abrupt way, without saying anything to you."

"Both my family!" was the energetic response. "I want you for my wife, not my family's." Nevertheless, a qualm of conscience took him as he spoke, in spite of his bravery and his defiant feeling. She slightly shook her head; she knew. Reginald had released his own hand and imprisoned hers.

Two years later. Reginald Lanster and his wife were on a visit to Mr. and Mrs. Sarmiento.

"What geese we were in those old days, Katherine!" exclaimed Reginald, in a moment of confidence; for he was just as outspoken as ever. "So silly and foolish."

"Speak of yourself, if you please, sir," laughed Mrs. Sarmiento. "I think I was the contrary. Ah! Reginald, fate and fortune judged better for us than we were inclined then to judge for ourselves. Had I been the goose implied, you might be a less happy man than you are. We should never have suited one another, you and I."

"Well, no, I dare say not," candidly acknowledged Reginald. "You have been too clever for me; too sensible. Dot is the dearest little wife in the world, but she has not a bit of cleverness in her; she gives in to me in all respects."

"Just so" said Katherine. "And I should have lectured you and kept you in order—which you would not have liked. Whatever is, is right, you know. There is a far wider truth in that assertion, Reginald, than the world generally realizes."

"Yes, I thought of Katherine as my possible wife when I was staying those few days with your father and mother," answered Mr. Sarmiento to Dot, when they were conversing together of old times. "I was very much taken with her. I came home and talked it over with Rachel; she was always telling me I ought to marry again; and we agreed to invite Miss Maverick here as the child's governess, that I might have the opportunity of seeing more of her and deciding for it or against it."

"And you decided for it," nodded Dot, approvingly.

"I did; and shortly, too. Dear Katherine! I often think it was heaven itself that threw the chance in my way."—*The Argosy.*

Minnie May's Department.

MY DEAR NIECES,—Now that the Christmas and New Year festivities are about over, and we turn once more to the stern realities of life, let us plan our duties for the new year so that they will not seem as stern and laborious as formerly, but pleasant and interesting. System is a necessity when things are to be done properly and without interference one with the another. First of all, to mothers I would say, give each child, young or old, girl or boy, some duty to perform, and don't have them feel they must be taken care of and waited on by others, without any corresponding obligation on their part.

There is no one thing more necessary to a housekeeper in performing her varied duties than a habit of system and order. It would be wise, therefore, if she devise a general plan, which she may at least keep in view and aim to accomplish, and by which a proper proportion of time shall be secured for all duties.

One very good method for the arrangement of the week's work is as follows: *Monday* is devoted to washing, *Tuesday* to ironing, *Wednesday* the ironing is finished off, the clothes folded and put away, and the kitchen scrubbed. *Thursday* is set apart for cleaning the silver, extra cooking or extra work of any kind. *Friday* the house is thoroughly swept and dusted, and *Saturday* is a general cleaning day, every department is put in order, and all the cooking needed for Sunday is prepared. By this regular recurrence of a particular time for each duty, nothing is forgotten, or work sufficient for two or three days shoved into one, and then only half done.

Now I will give a few hints about the care of house-linen, which may be of use to some of our readers. As all of you who have had the care of a house know, one of the most expensive items is that of house-linen; the requisite number of the various articles in the linen chest must be kept up. We must have sheets, pillow-cases, table-cloths and napkins. These are things that will not last forever, but a wise and systematic housewife can ward off the evil day much longer than would ordinarily be supposed possible. The whole of the house-linen should be carefully inspected at least once a year. Begin by examining the sheets; they first show signs of wear down the middle, in which case sew the sides neatly together, then cut down the middle and hem the sides. This attention makes the sheet good for some years longer. When it again shows signs of dilapidation, some people will seam the ends together and cut it across the middle and hem the ends, but my experience

has been that it is quite as economical to take the ends and make into pillow cases; even then there will be smaller portions sufficiently good to make strong patches.

Now let us inspect the pillow and bolster cases. Not very much can be done as a rule with the former, for the head usually wanders all over the pillow, therefore the slip is altogether finished; but it may so happen that the centre only is thin; in such a case a neat patch will prevent the mischief from increasing, and render the slip serviceable once more. Of course it must ascend in the social scale; it is not now put on a visitor's bed, but so long as it is whole the boys and girls are none the worse for the patch.

An excellent plan, which was suggested to me not long ago, for keeping up the supply of house-linen, was to make a pair of new sheets and pillow-cases each year; thus the strain on the purse and family seamstress is not so hard as when a number have to be replaced at a time.

Next comes the table-linen. The smallest break in the threads, or the tiniest hole, should be at once repaired, and further mischief stopped by a neat darn. Then examine the four corners of the cloth, by which they are often hung to dry, when high winds and rough pegs will cause a deal of damage. If the edges are beginning to break, sew tape along the selvage on the wrong side. When the cloth has served in its capacity as a cover for the table, you can make common table napkins or serviettes out of the best parts, and wash cloths out of the thinner parts.

Last of all the kitchen towels have to be looked after, for every good housekeeper knows the convenience of having a good supply of dish and roller towels on hand. When the latter begin to grow thin, they can be made into dish towels, and they in turn, when too thin and linty for wiping, can be made into dish-cloths.

Let me urge upon young ladies the importance of forming habits of system while unembarrassed with those multiplied cares which will make the task so much more difficult and hopeless.

Every young girl can systematize her pursuits to a certain extent. She can have a particular day for mending her wardrobe, and for arranging her trunks, closets and drawers, etc. By following this method in youth, she will form a taste for regularity and a habit of system which will prove a blessing to her through life.

MINNIE MAY.

Answers to Enquirers.

A CORRESPONDENT.—1. French polish for boots and shoes is made as follows: Take, of logwood chips, half a pound; glue, a quarter of a pound; indigo, pounded very fine, a quarter of an ounce; isinglass, a quarter of an ounce; soft soap, a quarter of an ounce. Boil these ingredients in two pints of vinegar, and one of water, during ten minutes after ebullition, then strain the liquid. When cold it is fit for use. To apply the French polish the dirt must be washed from the boots and shoes. When they are quite dry the liquid polish is put on with a bit of sponge. 2. A little warm water and soap should be sufficient to clean the ordinary leather chairs.

PATIENCE.—Shortness of breath may proceed from more causes than one—such as indigestion, asthma, an affection of the heart, or a fatty degeneration, hindering the free action of the lungs. We have no means of knowing to which of these you owe your trouble, and advise you to consult a doctor. Perhaps you attempt to sing, or read aloud too soon after meals. At any rate, cure the injurious habit of stooping.

BLUE BELL.—The family of the future bridegroom should call on that of the bride-elect. The man makes the proposal for the alliance between the two families, and they must be brought together by him, and then the bride's family conduct everything, invitations and all, afterwards.

S. E. B.—1. The colors that would look well with the dark maroon velvet are pink, pale blue or primrose. 2. Endeavour to read aloud before one auditor, to begin with. Much of your hesitancy appears to arise from nervousness, and reading aloud is the best cure. Also speak very slowly and thoughtfully, and endeavor to complete each separate word.

Recipes.

CORN CAKE.—One cupful each of Indian meal, flour and sweet milk; one egg, one teaspoonful cream tartar, a half teaspoonful of soda. Bake on two round tin plates and do not cut before sending to the table.

RENOVATING OIL CLOTH.—Oil cloth washed in hot water or in soapsuds, or with a brush, will look dingy when dry, and soon crack and peel off; but when always washed in luke-warm water with a piece of soft old flannel, and wiped perfectly dry each time, will last longer and retain its young looks down to old age; it greatly improves its appearance to use half milk and half water. Skim milk, if not sour, is just as good as new milk. This makes oil cloth look as if varnished. Neither soap, hot water or brush should ever be used on it.

SODA BISCUIT.—Referring to this pleasant hot cake or biscuit, a correspondent says: "I do not recommend them for constant use, but for a change. Made after the following recipe, I esteem them a positive luxury: Sift a quart or three pints of flour; add the usual quantity of soda, and in addition one teaspoonful of soda and two of cream of tartar; salt it and stir it thoroughly; mix in thoroughly a scant tablespoonful of butter or lard; mix as lightly as possible with sufficient sour milk to make a soft dough; do not knead; roll half an inch in thickness, cut, and bake in a very quick oven."

APPLE ROLY-POLY.—Peel, quarter and core sour apples, make rich soda biscuit dough, or raised biscuit dough rolled thin, roll the dough half an inch thick or less, slice the apples thin and lay them on the dough, roll up, tuck in the ends, prick deeply with a fork, put in a pudding-bag or in a steamer over boiling water, and cook an hour and three quarters. Serve with sweetened cream or butter and sugar. Blackberry jam or any other fruit may be used instead of apples. If the roly-poly is cooked in a bag put an inverted saucer or plate in the bottom of the kettle, and have boiling water ready to renew that which wastes.

B. H. C., Michigan.—Please give a remedy for dandruff. *ANS.*—Dandruff is an exfoliation of the skin, caused by a too active condition of it. This may be caused by too much warmth, want of frequent cleansing, the use of oil or grease, close confinement of the hair, or by the health. To prevent it avoid these causes; and if this is not effective, apply once a day for a week a teaspoonful of refined borax dissolved in half a pint of clear water; dip a clean brush in the solution and brush the scalp with it, but not hard. This will leave the hair soft and glossy.

Don'ts for the Girls.

- Don't flirt.
- Don't talk slang.
- Don't put on airs.
- Don't learn to be cranky.
- Don't try to arrest attention.
- Don't think it's pretty to be pert.
- Don't make a drudge of your mother.
- Don't say "no" when you mean "yes."
- Don't meddle with other people's beaux.
- Don't devote too much time to novel-reading.
- Don't make a fright of yourself to be in fashion.
- Don't pick up chance acquaintances on the street.
- Don't look on every young man as a good-natured ice-cream-freezer.
- Don't run down your girl friends in their absence; it is a mighty mean trait.
- Don't make up your mind to be sweet to everybody's brother but your own.
- Don't marry a man who has no evident way of supporting you. Love on starvation principles was played out long ago.
- Don't lose your heart on a Darwinian specimen who parts his hair in the middle. Plenty of men want wives; wait and you'll get one.
- Don't boast of your ignorance of household affairs. In the present state of society there is no surer stamp of vulgarity.

The way a London woman identified her stolen parrot was by bringing her husband into court and scolding him. The bird soon called out, "Oh I wish you were dead, old woman!"

The Canada Otter.

The range of the Otter extends over nearly the whole of North America, but it is no longer found abundantly in various parts where it formerly appeared in large numbers. It was once very common in part of the Champlain valley, where now it is unknown. Length of the body of a large sized Otter, 2 feet 5 inches; of the tail, 17 inches; head of a globular form; nose, blunt; canine teeth, prominent; ears, round, short; neck, long; body, long and cylindrical, set upon short and stout legs; feet, webbed to the nails; tail, stout, gradually tapering towards the extremity and flattened horizontally, two small, oval glands at its base, secreting a fetid liquor. Fur, soft and dense, very fine, shorter on the forehead and extremities; longer hairs, covering this, are glossy and rigid. Color, rich, dark, reddish brown, of a lighter shade on under surface; whitish about the throat and face. The Otter frequents running streams, large ponds and more sparingly the shores of some large lakes. It prefers waters which are clear, and makes a hole or burrow in the banks, the entrance to which is under water. The nest is large and is made of an abundance of sticks, grasses and leaves, above and beyond the influence of high water or freshets. Here it spends a great part of the day, and, being a very shy animal, it is seldom seen; here, in early spring, its young, usually two in number, are brought forth. It is a swift swimmer and can overtake almost any fish, and is exceedingly expert in catching them. It carries its booty held in its mouth, usually by the head, to the bank, where, held with its forepaws, it speedily eats its prize and dives into the water for more. Although its food is generally some kind of fish, yet, when unable to procure any, eats frogs, mice, muskrats and the like. When attacked, the Otter is a fierce and desperate fighter, biting and snapping with energy, and never yielding as long as life remains. In regions where it is hunted with dogs, the latter seldom kill it unaided. When shot and killed in deep water, the hunter sometimes loses his game, as its bones are so nearly solid it sinks of its own weight. It is often caught in steel traps, baited with fish, and set some feet under water. In diving for the fish it is caught by the nose or forepaw; if by the latter and the trap is in too shallow water or unclogged, so the animal does not drown, it frequently escapes by gnawing off its foot. The best place to set the trap is near one of its "slides," where it crawls out of the water, or at the foot of the "slide," if that ends in water. Sometimes, unbaited, the trap is set on one end of a log that is under water, the other end resting on the bank. The upper end of the log should be scented with otter musk. In endeavoring to mount the log it is entrapped. Another good plan is directly under its feeding hole through the ice in winter, also at the mouth of its burrow. In all cases, as this is a wily, keen-scented animal, it is necessary to re-

move all suspicious traces, hence, when possible, it is well to set the trap from a boat, or by wading. Otters have a singular habit of amusement. Their favorite sport is sliding, and for this purpose in winter the highest ridge of snow is selected, to the top of which the Otter scrambles, where, lying on the belly, with the forefeet bent backwards they give themselves an impulse with their hind legs and swiftly glide headforemost down the declivity, sometimes for the distance of twenty yards. This sport they continue, apparently with the keenest enjoyment until hunger or fatigue induces them to desist. The slides, in summer, are often made in clayey slopes along the banks of rivers and ponds, and in the Southern States they are very common along the reserve dams of the rice field. This species has the habit of travelling to a great distance through snow in search of some rapid that has resisted the severity of winter frost, and if seen and pursued by hunters on these journeys, it will throw itself forward on its belly and slide through the snow for several yards, leav-

Managing Wives.

The fact is, there is very little truth-telling between men and women on either side. Men conceal from women the realities of their lives as passed out of the house, on the plea that they are but coarse animals at the best, and that they do things which the purer creatures had better not know anything about; and women conceal the truth of theirs from men for fear lest they should be interfered with, denied, or forbidden. Hence comes the theory that women must be kept in the dark because they are not strong enough to bear the light; and that men must be "managed," so that they shall not detect the poor little farthing rush-lights which women stick up over their dressing-tables, and by the uncertain shimmer of which they walk. When women want to have their own way the popular doctrine among them is that they must manoeuvre for it. They must neither take it boldly nor openly ask leave. Their husbands or fathers must be led to acquiescence by all manner of circuitous routes, and treated as the sick are treated by the sane, as children are treated by adults—that is, humored, hood-winked, managed and induced to do right by diplomacy, not by reason nor by justice.

But though men may not like opposition in their wives, and though a decided "I will," and a firm "I won't," may bring about a domestic tempest not easily allayed, yet in emergencies they will trust the woman who has dared them with the truth fully spoken. The husbands of slippery wives are never easy, because they never feel safe. They know that they are deceived, but they cannot tell how, when, or where; they cannot put their fingers on the exact spot, and yet they are conscious of what they are unable to prove. Things go in the air, and consciousness can be touched though the senses reveal nothing. Men feel that they are managed even though they do not see the mode.

Health at Home.

An English paper, Capital and Labor, thinks that, while excessive labor, exposure to wet and cold, deprivation of sufficient quantities of necessary and wholesome food, habitual bad lodging, sloth and intemperance, are deadly enemies to human life, none of them are so bad as violent and ungoverned passions. Men and women have survived all the former, says the writer, and at last reached an extreme old age; but it may be safely doubted whether a single instance can be found of a man of violent and irascible temper, habitually subject to storms of ungovernable passion, who has arrived at a very advanced period of life. It is, therefore, a matter of the highest importance to every one desirous of preserving "a sound mind in a sound body," to have a special care, amid all the vicissitudes of life, to maintain a quiet possession of his own spirit.

About Deceiving Children.

Never deceive your child; if you once do, he will never believe you again; and mischief will be done which years will not repair. Some silly mothers promise their children anything and everything "to make them good" (Heaven help the mark)! never meaning for one moment to fulfil their promise; indeed, in some instances, it would be utterly impossible for them to do so. Now, all this is the quintessence of folly! Be cautious, then, in making promises to your child; but, having once promised, perform it to the very letter, for a child is quick in observing and remembering. Let your word to your child be your bond.



CANADA OTTER.

peating a deep furrow behind it, which movement is repeated with so much rapidity, that even a swift runner on snow shoes has some difficulty in overtaking it. The Otter is easily domesticated when young, and makes a playful pet.

Musical Prose.

So life and death go hand in hand through all the scenes and movements of the world; so infancy goes laughing in the sun, carrying in its guileless heart the germs of future sorrow, and sprinkling its offerings of love upon the green turf where the blood of innocence has flowed and the sacred ashes of the lost ones sleep for ever. The winter and the spring have but one threshold, and the flowers which sweeten the breath of both creep alike over the playground of childhood and the silent sepulchre of beauty. So are the children and the flowers but living symbols of the sweetness of God's Paradise, and the soul, in its striving upward, hears from the hearts of both the music of its future summer.

Forgive and Forget.

Forgive and forget—it is better
 Than fling every feeling aside
 Than allow the deep cankering fetter
 Of revenge in thy breast to abide.
 For thy step through life's path will be lighter
 When the load from thy bosom is cast,
 And the sky that's above thee be brighter
 When the cloud of displeasure is past.

Though thy spirit swell high with emotion,
 To give back an injustice again,
 Let it sink in oblivion's ocean,
 For remembrance increases the pain.
 And why should we linger in sorrow
 When its shadow is passing away;
 Or seek to encounter to-morrow
 The blast that o'swept us to-day?

Oh, memory's a varying river,
 And though it may placidly glide
 When the sunbeams of joy o'er it quiver,
 It foams when the storm meets the tide.
 Then stir not its current to madness,
 For its wrath thou wilt ever regret.
 Tho' the morning beams break on thy sadness,
 Ere the sunset, forgive and forget.

New Years.

We pause on the threshold of the New Year and take a retrospect of the past, a glance into the probable future. The past we can review day by day; of the future little is known to us. There is profit in dwelling on the past to a degree. Remembering our fortunate escapes from calamity, our deliverances from trouble, our victories over obstacles, our solutions of difficulties, we take courage for the future. A warm glow is thrown over the present and the future by memories of bright days in the past. It is a satisfaction, to have lived through and down trouble, to have survived shipwreck, storm and battle. Even those who think there is little to be glad for in this life may rejoice that one year more of their pilgrimage is over; that there is for them one year less of pain. And if measuring our actions and our consciousness by the standards of rectitude contained in the word of God, it shall appear that our tendencies are in conformity therewith, the happiest of us may rejoice that the period of our final enlargement approaches. Here we have no continuing city, no abiding home. Life is a bubble, a vapor. Those of us in middle life are growing every year more and more solitary as the friends of our childhood one by one are called away. It can but rejoice us that the hour approaches when we shall join them again and in open vision look upon all that is.

To many of us the New Year brings only a seeming repetition of those that are gone. The same routine is to be plodded through, the same fields ploughed and harrowed and sowed and reaped; the same dishes to be washed three times three hundred and sixty-five times, the same floors swept, the same clothes, with now and then a variation, to be mended, the same lessons to be taught in the same school-room to children that seem the same.

But to the growing, aspiring, thinking soul there is no feeling of sameness in even the dullest routine. We wear and expect to wear one working suit, day after day, till it is worn out; we never think of changing our bodies till we put on the new immortal bodies. This monotony of routine is but the every day dress of our actions, and has no touch of soul in it, only as soul shines through it in fidelity, in promptness, in perseverance, in patience. While our hands are busy in discharging these necessary duties of daily life our souls may be intent on higher themes, but never so intent that we shall neglect the smallest detail of present duty.

The past year is as truly past as are the years before the flood. It went as the coming year will go day by day, moment by moment. Its record is made up of little things, as are the records of each present day and hour. In memory we mass all these details together, but for all that they are still separate items, each of which occupied a passing day or hour, each of which gives its proper complexion to entire record. The only way to make that record perfect in the whole is to make it perfect in each of its smallest parts. The perfect copyist makes not one careless stroke of the pen, not one blot, not one word or letter that must be erased. On the new blank page of the coming year let us make no careless entries, no blots, but only what is good and fair, so shall our retrospection of the year be pleasant and our anticipations of its successor joyous.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—What a lot of snow we are having this winter! Just lovely, you say, for snow-balling. You want to be a boy to enjoy that—girls don't like it. It puffs up their hands and makes them red, and the snow gets in their necks and sends cold shudders and little globules of water down their backs. School-boys are especially prone to indulge in it, and all through recess the fun wages fast and furious, the white missiles fill the air and hit everywhere except where they are aimed. It is a sort of inspiring sight to an old foggy (like Uncle Tom) to watch a set of schoolboys snow-balling. How vigorously they paw into the snow! How they roll and press it together, as if their lives depended on the celerity with which they get the ball round and hard! How their cheeks glow! How slyly they take aim at another boy, and hit him in the eye, and when he doubles up and sets up a howl and says he will tell the teacher, "and then you'll see what you'll get!" the guilty boy will put on an injured look and declare by all the saints in a schoolboy's calendar that he never meant to hit him—he was only firing at that yellow dog of Jinks! A poor stray dog is a powerful temptation to the boys. If he can get past a school house without legging it for dear life to get rid of the shower of snow-balls leveled at him, he may congratulate his canine spirit, and be thankful he was born under a fortunate planet. But the man with the tall hat runs the greatest risk. It presents such a prominent mark that there seems no possibility of missing it. Everybody feels sure he could hit it plumb in the middle, and a boy can hardly resist the temptation to shy a snowball at it. But I must proceed to business and not dilate further upon your mischievous pranks. The following is a complete list of the fortunate prize-winners for 1882. The prizes are given fairly and impartially as far as we are able to judge. First, the three prizes for the best and most correct answers to puzzles for the whole year: 1st prize, of \$3.00, won by A. J. Taylor, of Glencoe, Ont. 2d prize, of \$2.00, won by A. Phillips, of Montreal, Ont. 3d prize, of \$1.00, won by C. G. Keys, of Ottawa, Ont. The prizes for the most and best puzzles are thus awarded: 1st prize, \$3.00, won by Herbert W. McKenzie, Dartmouth, N. S. 2d prize, \$2.00, won by Elizabeth E. Ryan, Mount Forest, Ont. 3d prize, \$1.00, won by A. J. Taylor, Glencoe, Ont. For the year 1883 I will offer four prizes for the best collection of original puzzles: 1st prize, \$2.50, 2d, \$2.00, 3d, \$1.50, 4th, \$1.00. Also four prizes for the most correct answers to puzzles similar to the above. The competitors must be under sixteen years of age and children of our subscribers. Some complain of the short time they have for solving puzzles and to get their answers here by the 20th, so I shall extend the time to the 25th of each month. Now I hope a great number will join in earnest competition for the prizes.

UNCLE TOM.

PUZZLES.

1.—CRYPTOGRAPH.

Yrtr mzur sat nsfrtrzbw lyr czbu
 Gvsur gsk bs spb trmzru sb
 Gvs bzfrt npsk jp vssmzny lyzbu
 Pbk brfrtkyk p gzur sbr

J. E.

2.—DIAMOND.

- 1.—A consonant.
- 2.—To cry.
- 3.—A place spoken of in the Bible.
- 4.—A ruler.
- 5.—A pleasure boat.
- 6.—Water as a solid.
- 7.—A consonant.

H. W. MCKENZIE.

3.—NUMERICAL CHARADE.

1, 6, 2, 3, 5, 4, 9, is a vegetable.
 8, 7, 1, 9, a flower.
 My whole is a town in English possession
 ALICE LESLIE.

4.—TOWNS.

A figure in Euclid and a large body of salt water.
 Aged and bacon.
 A summer flower, a touch of the hand and a piece of meat, beheaded.
 A piece of water, myself, and a summer fruit.
 A letter of the alphabet and one's relations.
 A small sack and father.

5.—My first you'll find is always merry,
 You'll find my second in a quarry.
 Now join these two, a verb and noun,
 And find a statesman of great renown.

A. J. TAYLOR.

6.—CHARADE.

Light as air in air I fly,
 Floating o'er the summer sky,
 Tinged with colors of the bow,
 Pure and fair as new laid snow;
 From meanest sources though I come,
 I with butterflies may roam,
 But if to touch me durst,
 I forewarn you I shall burst.

TOM PLUMMER.

7.—ENIGMA.

My first is in sermon, but not in discourse;
 My second's not in sermon, but in discourse;
 My third is in sermon, and in discourse;
 My fourth is in sermon, and in discourse;
 My fifth is in sermon, and in discourse;
 My sixth not in sermon, but in discourse;
 My seventh in sermon, and in discourse;
 My eighth not in sermon, but in discourse.
 My whole is a river of America.

Answers to Dec. Puzzles.

- 1.—Madrid.
- 2.—"Christmas comes but once a year,
 And when it comes it brings good cheer."
- 3.—Shear, hear, ear, are.
- 4.—Edgar A. Poe.
- 5.—Pope, Scott, Gray.
- 6.—1. Because it is in the middle of Greece!
 2. The outside.
- 7.—

D
 C I D
 C L A R A
 D I A M O N D
 D R O W N
 A N N
 D

Names of Those who have Sent Correct Answers to Decem-ber Puzzles.

Gib Arnold, R. R. Lawrie, Addie V. Morse, Chas. French, A. J. Taylor, Eliza J. Howell, James Perry, Richard Kingston, Willie H. Bateman, Minnie Gibson, Esther Louisa Ryan, Arthur H. Mabee, Sam. Trowell, C. G. Keyes, Ella Montgomery, James Murray, C. G. Siddons, Frank Haywood, Arthur A. Ellis, Jessie Johnson, Joe E. Pennington, H. Thorncroft, Gus. Gordon, T. Louis Hyman, Geo. Taylor.

Cheerfulness.

Depend upon it, those who gain the most love and are nearest to perfect happiness in this world, where all must sometimes suffer, are the cheerful ones; those who, like the little birds, can trust to their Father for daily bread,

"And feel at heart that One above,
 In perfect wisdom, perfect love,
 Is working for the best;"

and who, when the dark clouds of adversity obscure the light, can look through them all at the blue sky beyond, and hopefully wait for the sunshine. Be cheerful, so the world will be made a little brighter while you are in it, and a dark spot be left when you are gone.

Transport in the North.

On this page we have an illustration showing the means of transport in the northern parts of our Dominion and among the Esquimaux. The sled here resembles much our toboggo, which, at this time, is affording splendid enjoyment to many of you, as at the rate of a mile a minute it leaves the hill-top with Tom and Nelly for the broad flat below.

The driver is a trader returning to one of the trading posts with the season's furs, which, with the travelling outfit, are securely wrapped on to the sled. The outfit consists of a supply of provisions for himself and dogs, and a large bag made of buffalo skin, into which he crawls when he "goes to bed."

The dogs are strong, hardy and somewhat savage animals; able to endure very severe cold and capable of subsisting on little food. With these dogs a speed of eight miles an hour can be maintained, with short rests, for a whole day. The dexterity with which the driver uses his whip is remarkable. It is about twenty feet in length and is fastened on to a handle about sixteen feet in length. When travelling the whip drags behind, and can be brought with a tremendous crack that makes the hair fly from the wretch that is struck. They can hit any part of the dog with certainty, but usually rest satisfied with simply cracking the whip, a sound that produces an answering yell of terror, whether the lash takes effect or not.

The Longevity of the Ancients.

Can man reach and pass the age of a hundred years? is a question concerning which physiologists have different opinions. Buffon was the first one in France to raise the question of the extreme limit of human life. "In his opinion, man, becoming adult at sixteen, ought to live to six times that age, or to ninety-six years. Having been called upon to account for the phenomenal ages attributed by the Bible to the patriarchs, he risked the following as an explanation: "Before the flood the earth was less solid, less compact than it is now. The law of gravitation had acted for only a little time; the productions of the globe had less consistency, and the body of man, being more supple, was more susceptible of extension. Being able to grow for a longer time, it should, in consequence, live for a longer time than now."

The German Heusler has suggested on the same point that the ancients did not divide time as we do. Previous to the age of Abraham the year, among some people of the East, was only three months, or a season; so that they had a year of spring, one of summer, one of fall, and one of winter. The year was extended so as to consist of eight months after Abraham, and of twelve months after Joseph. Voltaire rejected the longevity assigned to the patriarchs of the Bible, but accepted without question the stories of the great ages attained by some men in India, where, he says, "it is not rare to see old men of one hundred and twenty years." The eminent French physiologist, Flourens, fixing the complete development of man at twenty years, teaches that he should live five times as long as it takes him to become an adult. According to this author the moment of a completed development may be recognized by the fact of the junction of the bones with their apophyses. This junction takes place in horses at five years, and the horse does not live beyond twenty-five years; with the ox, at four years, and it does not live over twenty years; with the cat, at eighteen months, and that animal rarely lives over ten years. With man it is effected

at twenty years, and he only exceptionally lives beyond one hundred years. The same physiologist admits, however, that human life may be exceptionally prolonged under certain conditions of comfort, sobriety, freedom from care, regularity of habits, and observance of the rules of hygiene, and he terminates his interesting study of the last point ("De la Longevite Humaine") with the aphorism, "Man kills himself rather than dies."—[M. De Solaville, Popular Science Monthly.

Do Not be Envious.

Above all things, my little friends, do not be envious. Be as willing to see good traits in your rich companions as in your poor ones. Because your schoolmate comes in with a new dress every week, do not try to make out she is proud. Because a boy has a pony, do not insist that he tells lies. Be just and generous toward rich and poor. Think the best you can of every one, make the most of everything you do possess, enjoy the pretty things which your friends have, even though you cannot get them yourself, and you will be as happy and contented as though you owned all the silk

Stories about Musical Parties.

There was once a hostess who kept in her drawing-room two pianos; a good one for herself and the feeble amateurs of her acquaintance who, she said, "did not hurt it"; and a bad one for professional pianists, who, when they good-naturedly offered to play to her, were allowed to do their worst upon an instrument which they could not injure; but which at the same time defied their efforts to produce dazzling effects. This lady, however, knew what she was about, and, from views of economy which many will think erroneous, declined for the sake of a little temporary show to have her property damaged.

Another lady who possessed a piano which had once been good, and who was really unaware of the effect which time's effacing fingers had had upon its ancient brilliancy, asked a famous German pianist to perform upon it, and, after he had obligingly done so, was rash enough to ask him what he thought of it. "Since you press me for an opinion," replied the eminent artist, "I will tell you first that your piano wants new wires, and, secondly, that the hammers want new leather.

And while you are about it," he continued, gradually boiling up, "with your new leather you had better have new wood, and when your instrument is thus repaired the best thing you can do with it will be to make it into firewood and have it burned." One of the most successful of our London managers, asked how it was that, unlike other managers, he never quarrelled with any of his company, replied that he never quarrelled with them because he humored them and treated them like children. Perhaps musical artists ought also to be treated like children. But even to a child one ought not to give a worthless toy.

Home Conversation.

Children hunger perpetually for new ideas. They will learn with pleasure from the lips of their parents what they deem drudgery to study in books; and even if they have the misfortune to be deprived of many educational advantages, they grow up intelligent if they enjoy in childhood the privilege of listening daily to the conversation of intelligent people. We sometimes see parents who are the life of every company which they enter, dull, silent and uninteresting at home among their own children. If they have not mental activity and mental stores sufficient for both, let them first use what they have for their own household. A silent house is a dull place for young people, a place from which they will escape if they can. How much useful information, on the other hand, is often given in pleasant family conversation, and what unconscious mental training in lively social argument. Cultivate to the utmost all the graces of home conversation.—[Good Health.

Humorous.

"I believe you're a fool, John," testily exclaimed Mrs. Miggs, as her husband unwittingly presented her the hot end of a potato dish, which she promptly dropped and broke. "Yes," he added, resignedly, "that's what the clerk told me when I went to take out my marriage license."

The other day a sharp looking little fellow, with a shock of light brown hair that looked as though it had no recent acquaintance with comb and brush, said to his teacher very abruptly: "Teacher, I ain't coming to school any more." "Not coming to school any more! Why, what's the matter, don't you like your teacher?" "Oh, jimimi! don't I! You bet. But I'm goin' back to the theatre!" "Back to the theatre?" "Why, yes, I act, I does." "You act? Where?" "Yes, I've been on the stage lots. I'm an old hand at it. I was an angel up to the 'Black Crook,' and a bull frog down to the 'White Fawn,' and I tell you what it is, teacher, I'd a heap site rather be a bull frog than an angel any day."

worms and ponies in the world. Remember, also, this: However rich you are there are thousands of persons in the world richer than the richest of you. So, why should you be proud of that? However poor you are there are thousands upon thousands poorer than the poorest of you. So, why should you complain? I know a father and mother who have more thousands of dollars than your fathers have hundreds; yet, just the same, these fathers and mothers must find happiness in their children, precisely as your fathers and mothers do in you. It is no matter how many houses, horses and lands a man may have, how many silks and jewels and caskets a woman may own, if their boy grows false, reckless, dishonorable, if their girl is indolent, vain, worthless, all their gold and garniture are of no avail. They are as unhappy as the poorest of the poor. The best things of life, my little friends, lie in your own hands.—[Gail Hamilton.

I have taken your paper for a number of years. I would not like to do without it, as it would be like losing one of the family. Oshawa, Ont. R. L.



Mode of Transport in the Northern parts of our Dominion

OUR PREMIUM LIST.

of Prizes offered, and sent to any person sending in one or more NEW subscribers.

"The Farmer's Advocate has never been excelled in the usefulness and value of its Premiums."

No. 1, "The Offer."

This lithograph is a copy of a very fine and pleasing picture by the late Thos. Faed, R. A. A very handsome girl, leaning gracefully against a marble mantelpiece, has just received a letter. A few flowers and the envelope are at her feet, and writing materials are at hand. "Perfectly satisfactory," she remarks. The lithograph is a good one, and is 22 x 26 inches in size.

For one new subscriber.

No. 2, "The Accepted."

This is another lithograph after the same celebrated artist, and, of course, the answer, "I take this opportunity," shows it to be the companion of "The Offer." It is the same size, and equally choice and pleasing in sentiment and finish.

For one new subscriber.

No. 3, "Yes or No."

This is a very excellent lithograph, taken from the well-known painting by Millais, one of the cleverest artists of the present day. A young lady has received a letter, and what to say is a conundrum.

Same size as "Offer" and "Accepted."

For one new subscriber.

Book Premiums.**No. 4, "Butter and Buttermaking."**

By HAZARD.

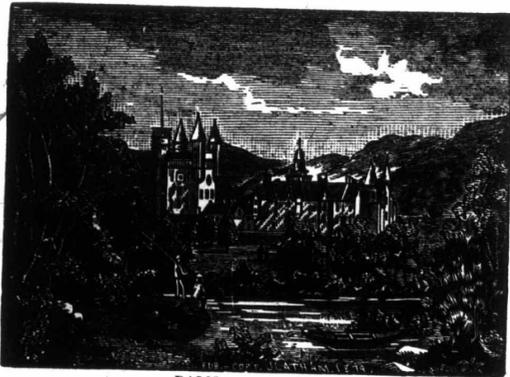
No. 5, "Our Farm of Four Acres."

In Paper.

No. 6, "Language of Flowers & Floral Conversation."

By UNCLE CHARLIE, contains the principle of flower language, floral decorations, skeleton leaves, &c. Your choice of one of the above five books

For one new subscriber.



BALMORAL CASTLE.

No. 7, "Gregory on Onion Raising."

No. 8, "Potato Culture," (Prize Essay.)

No. 9, "Balmoral Castle."

Every one will want to have a good picture of the Highland residence of our beloved Queen. We give you a small cut of this fine chromo-lithograph, which is 24 x 30 inches in size, and of elegant design and finish.

For two new subscribers.

No. 10, Hall's Japan Honeysuckle.

A strong, vigorous evergreen, with white flowers, changing to yellow. Very fragrant and covered with flowers from June to November. One plant, by mail, postage paid,

For one new subscriber.

No. 11, "Lorne and Louise."

This lithograph was specially gotten up, at great expense, for THE FARMER'S ADVOCATE, and is original in design. An engraving of it was given in the ADVOCATE for December, 1879. A few copies are still on hand.

For two new subscribers.

No. 12, Grape Vines.

One root each of the well-known Concord and Delaware. The Concord is a very handsome and productive grape, whilst the Delaware is the finest of our native grapes, and of excellent flavor.

For one new subscriber.

No. 17, Democrat Wheat.

This wheat was first introduced by the Editor of this journal three years ago, and has proved itself a great favorite both for its yield, hardiness, and quality. It is a white-chaffed bearded variety, resembling the Treadwell. One pound per mail, post paid.

For one new subscriber.

No. 18, "The Wild Garden."

"THE GIRLS" SPECIAL PREMIUM.

Anyone who has planted and cultivated flowers in neatly laid out beds or carefully planned

borders, &c., is aware of the labor and constant attention required. To those who cannot give this care, the "Wild Garden" presents a substitute, and has no rival. Select a piece of ground, thoroughly pulverize by spading and raking, sow seed broadcast as thinly and even as possible, rake lightly, then press surface with back of spade and water thoroughly. The seed consists of a mixture of as many different varieties as we can afford to send you. They comprise a great number of species, and are all mixed together. No one who has not seen such a bed can form an idea of its gorgeous effect. The seeds come up as thickly as they can grow, and continue all summer. Every morning some new, unexpected flower appears in bloom. One packet, about 50 varieties.

For one new subscriber.



No. 4. - "LIFE'S VOYAGE."

No. 13, "Life's Voyage."

We give herewith a cut of this lithograph, which is printed in colors and represents childhood, youth, manhood and old age, in a pleasing and interesting manner. Its size is 15 x 22, and is well executed in all its details.

For one new subscriber.

No. 19, Gooseberries.

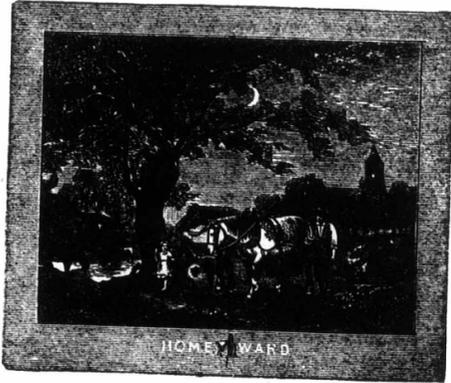
Two plants each of Downing and Houghton Seedlings. The Downing still retains its reputation of being the best variety, and the Houghton is very productive and reliable.

For one new subscriber.

No. 14, "Windsor Castle."

It would, indeed, be singular if every person should not wish to have this fine engraving of the residence of our beloved Queen. The picture is a colored chromo lithograph, and those who have seen the original pronounce it a good representation of the Castle, with all its gray austerity, and the far-famed St. George's Chapel, where so many royal marriages have been celebrated.

For two new subscribers.



"HOMEWARD."

No. 20, "Homeward, or the Curfew."

This cut but faintly suggests the beauty of this fine lithograph, after one of Joseph Johns' great paintings. The subject is taken from that beautiful elegy by Gray:

"The Curfew tolls the knell of parting day,
* * * * * from the churchyard tower, bathed in
sunset's fading light,

"And the plowman homeward plods his weary way,
and the tired horses look eagerly to their home and
its rest. The engraving is 22 x 28 inches, and is full
of expression.

For two new subscribers.

No. 15, The Lily of the Valley.

A few roots of this most beautiful flower will be sent as a premium. We expect to give a cut shortly, and full description, in the FARMER'S ADVOCATE.

For one new subscriber.

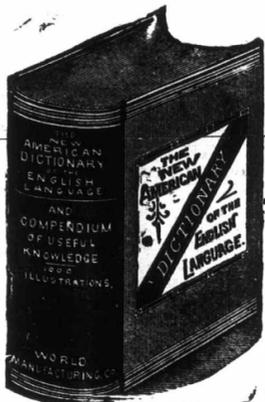
No. 16, The Cuthbert Raspberry.

This superb variety, the best and hardiest red, seems to be more than fulfilling the hopes of its most sanguine friends. The Cuthbert is a heavy fruitbearer, and should be in every garden. Three roots,

For one new subscriber.

No. 21, The "Household" Special Premium.

THE NEW AMERICAN DICTIONARY contains more engravings and pages than any other similar work. This volume is a library and encyclopædia of general knowledge, well bound, and contains every useful word in the English language, with its true



meaning, spelling and pronunciation, besides a vast amount of information on different subjects—a perfect library of reference.

Read what the Press says:—"We have frequent occasion to use the New American Dictionary in our office and regard it well worth the price."—CHRISTIAN UNION. "With the New American Dictionary in the library for reference, many other much more expensive works can be dispensed with, and ignorance of his country, history, business, law, etc., is inexcusable in any man."—SCIENTIFIC AMERICAN. Price \$1.00 per mail, post-paid, or

No. 22, "The Boys" Special Premium.

The "Common-sense Knife" contains Pruning blade Jack-knife blade, and Budding or Speying blade.



Cut gives exact size. One blade is excellent for castrating. Probably every farmer, gardener and stockman has often thought of such a knife as this, and here it is. Blades carefully forged from razor steel, file tested, and replaced free if soft or flawy. Price \$1.00 by mail, postage prepaid, or

No. 23, Meadow Fescue.

An excellent grass seed for permanent pastures, one of our best grasses, and too little known and sown. Stands the drouth well, makes hay nearly as good as Timothy, and has a good after growth. It is claimed to be as good a fertilizer as Red Clover. We wish our enterprising farmers to try this. (See cut and further description in FARMER'S ADVOCATE of March, 1882. One lb. per mail.

No. 24, A Collection of Vegetable Seeds

FOURTEEN VARIETIES AND A PACKET OF THIS YEAR'S NOVELTIES.

- Beans—Golden Wax.
Beet—McBroom's Imp'd Long Red.
Cabbage—Early York.
Cucumber—Extra Imp'd Long Green.
Lettuce—White Cabbage.
Melon—Musk, Extra Green Nutmeg.
Onion—Red Wethersfield.
Parsnip—Hollow Crown.
Pumpkin—Mammoth.
Radish—Long Scarlet.
Savory—Summer.
Tomato—Livingstone's Perfection; and
Cauliflower—Carter's Defiance, extra early.

For one new subscriber.

No. 25, Virginia Creeper.

A most attractive creeper, with its berries and foliage. A rapid grower and very hardy, and mingled with either of the above climbers, the effect on a wall or building is very striking. No vine more rapidly covers a wall, stump, or even a heap of stones.

For one new subscriber.

FOURTEEN VARIETIES AND A PACKET OF THIS YEAR'S NOVELTIES.

- Asters—Mixed.
Balsams—Mixed.
Daisy—Mixed.
Ice Plant.
Larkspur—Mixed.
Mignonnette—Sweet.
Morning Glory—Mixed.
Petunia—Mixed.
Phlox Drummondii—Mixed.
Portulaca—Fine mixed.
Pink—Indian, mixed.
Stock—Ten Weeks, mixed.
Sweet Pea—Mixed.
Zinnia—Double, mixed; and
1 pkt. Coxcumb—Queen of Dwarfs—new.

For one new subscriber.

No. 26, The Russian Mulberry.

This valuable fruit and ornamental tree was brought to this country by the Mennonites from Western Russia. The tree is a rapid grower and attains often a height of 50 feet, is perfectly hardy, and commences to bear when two years old. Fruit have a fine aromatic flavor, and are used for dessert similar to blackberries or raspberries.

The fruit gets larger and richer as the trees grow. Three plants, 6 to 12 inches, by mail.

For one new subscriber.

No. 27, The "James Vick" Strawberry.

(See cut, etc., in Nov. issue, 1882). Is a new variety of strawberry brought out during the past summer. The color is bright scarlet, turning to crimson; surface glazed. The berries average large, and for quantity, quality and beauty the berry is reported to be all that is desirable. It scarcely seems possible that so many berries could grow upon one plant, but the engraving shows only a part of what one average plant produced. The berries grow so thickly together that a bee could hardly crawl between them. The fruit stems are long and stout, but are unable to sustain the great burden imposed on them, often 12 to 18 berries being on one fruit stem. It has been pronounced by eminent pomologists to be one of the most promising strawberries ever introduced.

Vick's Magazine says: Its merits as a prolific and profitable strawberry are now pretty well established.

The points of merit are briefly:

- (1) Fine quality, unusual vigor, and perfect blooms.
(2) Color, form, and firmness of berry, which approach the ideal. No white tips; no coxcombs.
(3) Ability to stand on vines a week after ripening without becoming soft, or rotting, or losing quality or much lustre. Instead of softening it shrinks a trifle and becomes firmer than when first ripe.
(4) Uniformly large size and productiveness unequalled by any other variety. Two hundred and eight berries were counted on one average plant, and from one row, about 100 feet long, nearly two bushels of berries were gathered. Two plants, per mail.

For one new subscriber.

No. 28,

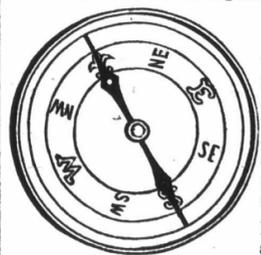
Game of Botany.



Uncle Charlie's Illustrated Game of Botany, a most interesting and desirable game for children. In playing, the elements of Botany are simplified and more easily acquired.

For two new subscribers.

No. 29, Pocket Compass,



A most valuable instrument. Very useful, easily carried in the pocket. Made of brass, open face, glass cover, with jewel balance. A pocket instrument to quickly give the points of compass at all times is very convenient. Just what is wanted by all who hunt, travel, or intend to go to Manitoba and the Northwest.

For two new subscribers.

The aim of THE FARMER'S ADVOCATE is to make the farmer and his family happy and prosperous. By reading its columns the farmer makes two blades of grass grow where but one grew before, and with our HOME MAGAZINE the family are instructed, entertained and amused, and the girls and boys are, we hope, inclined to say there is no place like home, and no life so independent and prosperous as ours. Our prizes will tend to decorate your walls, windows and gardens. Win as many as you can and see the happy effect.

Our Rules.

- 1. The name sent in must be a new one, and the subscription for one year (\$1.00) must be enclosed.
2. Agents are not allowed to supply THE FARMER'S ADVOCATE to any person for less than \$1.00 per annum.
3. The prize is for the person who sends in the new name, and not to the new subscriber.
4. Choose your prize when remitting, otherwise we will be at liberty to choose for you.
5. To any subscriber, to any member of a subscriber's family (boys and girls), to all postmasters and school teachers, who send in new subscribers, these prizes will be mailed, postage paid.
6 This premium list is good until March 1, 1883.
7. No prize given except for a subscription for one year.
8. All our plants, seeds and books will be sent to you with all charges prepaid.

There is no better business for anyone to take hold of temporarily, if having only some spare time, day or evenings, or permanently, if out of employment, or in poor health, than to canvass for THE FARMER'S ADVOCATE.

Any sample copies will, as well as circulars, &c., be sent you on application. Be sure and have one of our illustrated posters put up in a conspicuous place.

Address:—THE FARMER'S ADVOCATE, 360 Richmond St., LONDON, ONT., CANADA.

Little Ones' Column.

Pete.

"I'm Pete. An' I'm a newsboy. This story ain't writ by me, coz I can't write. Nor I can't read, so if anythink's took down wrong it won't be my fault.

"A gentlemun in one of our offices says to me: 'You tell me the story of your young un, an' I'll take it down and git it printed in THE ADVOCATE.' An' he says to begin at the werry beginnin', when I fust seed my young un—a little chap wot I foun' arter his father died, an' he hadn't nothin' but a fiddle in the world. When I fust goes up to him in the park, down to City Hall, an' asks him to play, he takes his stick an' pulls it across an' across the strings and makes the wust noise ye ever heard in yer life. He felt so took down when I laughed that I asked him, serious, to keep at it, till he says, lookin' up inter my face, dreful disappointed; 'They's awful noises, ain't they?' I says, 'Wal, no; I've heard the cats make ten times wuss unes nor that. I guess it'll come some time if ye keep a tryin'.

"So he hugged up his fiddle an' we started down to the corner. An' I says, 'Were are ye goin'?' 'Nowhere,' says he. An' I says, 'Don't ye live nowhere?' An' he says, 'No.' An' I says they wasn't no use in it, for he couldn't no more take keer of hisself than a baby ken, an' he'd have to live with me.

"I axed him wot was his name, but I can't tell ye it, for it was one of them blamed furrin names, an' I couldn't never git it right, so I allus called him jes 'Young Un.' An' he axed me wot was my name, an' I telled him 'Pete,' an' then we knowed each other.

"'Were do you live, Pete?' he says; an' I sez, 'Wal I live roun'—jes about roun'—here, I guess. Ye see I moved this mornin'.' An' he says, 'Were did ye move to?' An' that was a stunner. I war'n't a newsboy then, ye know; I was on'y a loafer. But I seed a airy; so I says, 'Wal, we'll wait till all the lights is put out down stairs in this house, an' then we'll live here ternight. But we must go fust an' git our bed afore dark,' I says. So we walks roun' to a lot w're they was buildin', an' he waits wile I dig out the bed from under a pile o' stones. Ye see I had to hide it mornin's fur fear o' ragpickers, 'cause it was a werry good bed and comfortable, specially in airies. 'Wot was it?' It was a ole piece o' carpet wot I foun' in front of a house wunst arter the people had moved away from it, and it was ez long ez—ez long ez you air, sir, an' longer, too. I takes it under my arm an' the young un hol's on to my other hand and we finds the airy agin. But we has to loaf roun' a good wile 'fore the lights is put out. W'en it's all dark we goes down under the steps, an' I rolls up the carpet kind o' loose an' tells him to crawl inside it. 'Will ther' be room fur the fiddle, too?' he says; 'coz, if ther' won't I don't mind, I ken sleep outside, Pete.' An' he looks so worried that I sings out, 'Of course, ther' will! Do ye think I'd leave the fiddle out to catch his death o' cold and be laid up and token to the ospital?' An' that makes him laf, an' then he crawls in fust and I crawls in last, an' then, ther' we was, all three of us, squeegeed up comfortable together."

The Truth at Last.

An amusing incident of childish humor used to be narrated by a Mr. Campbell, of Jura, the subject of it being his own son. It seems the boy was much spoiled by indulgences; in fact, the parents were scarcely able to refuse him anything he demanded. He was in the drawing-room on one occasion when dinner was announced, and on being ordered up-stairs to the nursery, he insisted on going down to dinner with the company. His mother at first refused, but the child persevered, and kept saying, "If ye dinna let me, I'll tell you." His father, then, for the sake of peace, allowed him to go into the dining-room. He sat at the table beside his mother, and when he found everyone getting soup and himself omitted, he demanded soup and repeated, "If I dinna get some, I'll tell you." Well, soup was given, and various other things yielded to his importunities, to which he always added the usual threat of "telling you." At last, when it came to wine, his mother stood firm, and positively refused to let him have some. He then became more vociferous than ever about "telling you," and as he was still refused, he declared, "Now I'll tell you," and at last roared out, to the great amusement of all present, "My new breeks were made out o' the auld curtains!"

A Knabe in the White House.

(From the Baltimore American.)

There was seen yesterday at Messrs. Knabe & Co's. factory a magnificent concert grand, just finished by them for the Presidential mansion. President Arthur, who is a thorough connoisseur of music, in selecting a piano for the White House decided in favor of the Knabe Piano as his preference, and ordered accordingly the instrument referred to. It is a concert grand of beautiful finish in a richly carved rosewood case, and of superb tone and action—an instrument worthy in every respect of the place it is to occupy. It was shipped to its destination yesterday.

We have just learned that Messrs. Stevens, Turner & Burns have arranged with Messrs. John Elliott & Sons to handle their threshing engines and separators, wagons, &c., with Messrs. Elliott's binders, reapers, mowers, plows, and all other farming implements in Manitoba and the Northwest Territory, jointly and on their own account, and have opened an office in the premises formerly occupied by Westbrook & Fairchild, in Winnipeg, and also have branch offices in Portage la Prairie, Brandon, Emerson, and other points in the Northwest.

The American Clydesdale Association have forwarded a copy of the American Clydesdale Stud Book. It is a volume of 620 pages, containing the pedigrees of 715 stallions and 345 mares, with full pedigrees of all the known out-crosses of these 1,060 animals, besides other valuable information. The book will prove of great value to horse breeders.

Messrs. Mast, Crowell & Kirkpatrick of Springfield, Ohio, have forwarded us a copy of the Complete Poultry Book. This book is full of the most useful information and will be found valuable to all breeders of poultry.

Stock Notes.

Mr. R. A. Brown, of Cherry Grove, Ont., has purchased Minnie Sexton, 3 year old filly, for brood purposes.

When a man pays \$1,500, \$2,000 or \$4,500 for a Jersey cow, as has been done, he is buying more pedigree than cow, and yet unregistered cows may be just as good, and they will not bring over \$150 or \$200. The Jerseys are having a "boom" now. Which breed will come next?

Says a Kansas City paper: The Dominion Cattle Co. shipped through the yards the other day from Canada, twenty-seven Polled calves, to Osage City, also fifty-seven Shorthorn heifers, bred to Polled bulls. These cattle will be held at Osage this winter, and shipped to Texas next season.

Mr. Henry Y. Atrill, Ridgewood Park, Goderich, Ont., reports that on the 9th inst. Grand Duchess 28th (imported), dropped a red roan c. c. by that noble sire the fifth Duke of Tregunter, and which has been named the Grand Duchess of Ridgewood the Third. Mr. Atrill now has five females and the Grand Duke of Connaught and Ridgewood of this tribe.

Thomas Taylor, of Harwich, Ont, imported last season the noted young Clyde stallion Craigie 1051, Vol. II. American Clydesdale Stud Book. This young stallion was sired by that noted sire Old Times 579, and out of Nancy by Large's Jock 444. Thomas Taylor is a member of the American Clydesdale Association, and is a strong advocate of this breed of draft-horse.

Few men in this country are better qualified to estimate the rewards which the business of breeding and raising cattle offers to industry than the Hon. J. B. Grinnell, of Iowa. He said to a reporter the other day: "After a quarter of a century of observation, conducted amid all the ups and downs of the markets in the time, I know of no sober, painstaking breeder and raiser of cattle that has failed by reason of the season, or its bringings of drouth, flood or frost, or who has failed in finding a fair return for his labor in his improved herds, not only attaining full compensation but, in many instances, competency for old age. He, clinging to his herd, has found a profit for his labor, while many a sheep man has been left without credit, and fast horsemen were driven to bankruptcy."

(Continued on Page 30.)

Additional Correspondence.

Grenfell, Qu' Appelle District,)
N. W. T., Dec. 20th, 1882.)

SIR,—Like many others in Ontario who were in quest of the most convenient and congenial way of making their little "pile," I was seriously affected by the North-west craze, so much so in fact that last March I boarded a train bound for Winnipeg, with the determination to ascertain what were a person's chances in that great country. Having had considerable experience in farming in Western Ontario, my object was to find out the most desirable locality for an agriculturist. The majority of the people there who knew the country west, of course had special interest in their respective regions, and their word in all cases could not be relied on, some claiming this particular region to be a place comparable only with Paradise, others claiming that this region was the only one in the Northwest in which true comfort could be attained. At all events a party of us determined to make a personal inspection of the western land and settle when we found things satisfactory. With about three months supply of provisions, we left Winnipeg by the C. P. R. for its then terminus, Oak Lake, about 160 miles west of Winnipeg. At this place we loaded our wagons and travelled westward by the main trail for several weeks. The land on the whole was fair, in some places excellent, in other places it is rendered unfit for cultivation by the excessive presence of alkaline matter. But one great objection I had to a lot of good land was the almost entire absence of wood, not being able in some places to get enough for miles to boil the tea kettle. We continued westward till we arrived at the Qu' Appelle district, where we began to find what we were in quest of, viz.: good land, with wood and water, and in close proximity to the R. R. After making a minute inspection of the land, each of our party secured 160 acres as a homestead and 160 more for a pre-emption, and then we commenced our settlement duties. The soil in this vicinity is a clay loam, with clay subsoil. The loam is between 12 and 14 inches in depth. There is sufficient timber for fencing and fuel, but large building timber is rather scarce.

It being late in the season before we got located, we were unable to do any seeding, and we commenced breaking for the next season's crop. The plowing is done as shallow as possible, from one and a half to two inches in depth, the shallower the better, as the sod will rot much quicker. It is not customary to take a crop immediately off the sod, although it is sometimes done with fair results, when the land is thoroughly harrowed. We now put up our supply of hay, and then turned our attention towards getting up a house. During the early part of the year the tent acted the duty admirably, but towards the winter it became evident that something more substantial would be required, both for our own personal comfort during the winter and also to fulfil the Government requirements. The large timber for the houses we got in the cooleys and on the bluffs, about three miles off, while the lumber was procured at the nearest station on the C. P. R., about eight miles distant.

I have already trespassed too much on your valuable space, and I must reserve some further particulars for another letter.

SUBSCRIBER.

The fall term examinations of the Ontario Veterinary College, Toronto, were concluded the 21st ult., when the following students passed a highly creditable examination, and were duly awarded the diploma of the council: C. W. Stone, Detroit, Mich.; H. G. Marshall, Dungannon, Ireland; S. G. Reed, Rushsylvania, Ohio; F. Fisher, Baillieboro, Ont.; W. F. Kidd, Cookstown, Ont.; Ward Woodhull, Angola, Ind.; H. H. Clement, Coldwater, Mich.; George G. Ferling, Indianapolis, Ind.; I. N. Perdue, Wingham, Ont. C. W. Stone, H. H. Clement and I. N. Perdue were awarded honors.

The Prince of Wales has been elected President of the Smithfield Club for 1883; and a vote of thanks was passed at the Council Meeting on Tuesday, to Mr. John Walter, M. P., the retiring President. Sir W. Gordon-Cumming, Bart., was elected a member of Council in room of Lork Chesham (deceased). Sir B. T. Brandreth Gibbs was unanimously elected Hon. Secretary. This is the fortieth year Sir Brandreth has been appointed to fill this post.

Commercial.

THE FARMER'S ADVOCATE OFFICE, } London, Ont., Jan. 1, 1883. }

Another month has rolled away, and with its departure has arrived the year 1883 with peace and plenty in the land, and if one wished to judge of that plenty they had only to take observations during the holiday season, and note the purchases of innumerable kinds during that time.

WHEAT

Has seen another very quiet month with little or no change to note in the situation. The movement has been very moderate with a fair export demand. The amount on passage to the United Kingdom shows an increase of 200,000 bushels, as compared with that of a week ago.

The extent of the average production of wheat in Ontario this year (23 bushels to the acre) is one of the most encouraging features in connection with the material prospects of the country.

The increased average per acre in Ontario comes from two or more causes, and farmers will do well to keep this fact well before them. One of these causes is much better tillage together with under-draining, a most important factor in raising wheat.

CLOVER SEED.

We have nothing to note on this article except that there is no business transpiring, and it is hard to say what the price will likely be.

CATTLE

Have ruled very high the past summer, and the prospects are they will be higher next spring. A western paper reports the outlook in the States as follows:

The heavy and protracted marketing of Texas cattle in the past season has greatly depleted the herds of that region, so that it is practically impossible for the Southwest to ship as many cattle in 1883 as in 1882. It is quite likely, too, that these cattle will include a considerable proportion of tailings, and it is doubtful whether the excellent average quality of this year will be maintained.

gathered for shipment, and no small number were driven as much as two hundred miles back to their proper ranges. Among these were many three-year-olds, on which the effects of another year's grazing must prove quite beneficial.

COTTON SEED MEAL.

This article is attracting a good deal of attention by farmers, and should be given a fair trial by all. English stock raisers, in their efforts to retain a home market for beef cattle, have found it to their advantage to use cotton seed meal for quick fattening.

CHEESE

Has been moving up very quietly but very steadily, and the tendency is upward. Stocks are gradually melting away, and soon will be hard to procure.

BUTTER.

This article is also very steady, with a good export demand for fine goods.

The quality of our butter is attracting some attention both by the press and the Local Government. The latter seem disposed to establish experimental creameries, with a view to educate the farmers' wives how to make better butter.

A correspondent in London, Ont., referring to some recent communications to this journal on the subject of buttermaking, says: 'There is room for a good article on the project now contemplated by the Ontario Government of starting experimental creameries.'

The creamery system is attracting more attention than at any previous period, and we already hear of some 3 or 4 new ones starting next spring on what is called the "cherry system," which system is much more advantageous in the majority of sections than the plan of gathering all the milk.

FARMERS' MARKET.

LONDON, ONT., Jan. 4th, 1883.

Table listing market prices for various goods like Red wheat, Dressed hogs, Eggs, small lots, Potatoes, bag, Apples, etc.

Toronto, Ont., Jan. 4th.

Table listing market prices for various goods like Apples, brl., Tomatoes, bu., Beans, bu., Onions, bu., etc.

CHEESE MARKETS.

Liverpool, Eng., per cable, 64s to 66s per 100 lb.

GRAIN AND PROVISIONS.

MONTREAL, Jan. 4th.

Table listing prices for various grains and provisions like Wheat, Can spring, Red winter, White, Corn, Oats, Peas, Flour, etc.

NEW YORK, Jan. 4th.

Table listing prices for various goods like Flour, No 2, Common, Good, West'n ex., Wheat, No 2 red, No 1 white, Corn, Oats, Mix'd white, White, etc.

LIVE-STOCK MARKETS

BRITISH MARKETS, PER CABLE.

CATTLE.

Liverpool, Dec. 26, 1882.—There was a fairly active cattle market this week. The demand was brisk and supplies moderate.

Prevailing prices are as follows:

Table listing prices for various types of cattle like Choice steers, Good steers, Medium steers, Inferior and bulls, etc.

SHEEP.

The sheep market was rather slow and weak, but good to choice stock sold freely at strong prices.

Table listing prices for various types of sheep like Best long woolled, Seconds, Merinos, Inferior and rams, etc.

Buffalo, N. Y., U. S. A., Jan. 3rd.

Cattle—Market strong. Sales of good to choice steers at \$5 50 to \$6 65; fair to medium, \$5 to 5 40; light, \$4 10 to \$4 75.

New York, Jan. 3rd.

Cattle slow, at \$10 75 to \$11 75. Sheep active, at \$6 50 to \$6 50. Calves active at \$8 to \$10.

Wonders Never Cease.

Despite the enormous expenditure made for public education, and the large number of excellent educational establishments in this city, the London Commercial College was commenced as a private enterprise upwards of twenty years ago in a common house, and afterwards in an old church.

In the advertising columns of this issue you will see the auction sales of Messrs. Beattie & Millar, also that of Messrs. Herron & Son, and several lots of Shorthorns by other persons at private sales.

Dairy Notes.

CATTLE SALES.—Mr. S. M. Fraser, of Westminster, has lately sold a portion of his herd of Shorthorn cattle. To Mr. Thos Bateman, Caradoc, he sold the "3rd Duke of Kelvin Grove." To C. Charteris, Esq., Chatham, the prize cow "Gendolen" and "Lady Garland the 5th," all of which realized a handsome figure.

The Merchants Union Barbed Fence Company, of this city, shipped to Manitoba, on the 6th inst., 35 tons of their flat steel strip barbed fencing. The Company is doing a very extensive trade in the North-West and elsewhere.

The *Agricultural Gazette* notes that cows in dairies for the London milk trade inherit some Short-horn blood "in ninety-nine out of a hundred cases." It adds that this is not true of the dairies in or near London, where there is a liking, if not a preference for Dutch cows. In view of the persistent charge that Short-horns are not good for milk, it is worth noticing such statements as these, as also the fact that at the recent Dairy Show in London the best cow was a Short-horn.

It is only within the past few years that men have begun to doubt the absolute necessity for keeping a fire in the dairy-room during cold weather. Mr. Swartz, of Sweden, was the first to prove the success of this theory by putting it into successful practice. He not only proved that all the cream from milk could be raised in winter without a fire; but in summer he added ice to the water the milk was set in, and accomplished the same good results.

Mr. T. J. Clancy, Cork, Ireland, who sent October butter in hermetically sealed cans across the equator to Australia, exhibited it six months later at the Melbourne Show, 1881, and received the highest prize, gives this statement as to the main requisite for long keeping even in unfavorable conditions: "The first essential point is that the butter be thoroughly freed from milk in making, and that it be moderately salted. The whole of the milk cannot be got out without washing, and in the effort to get it out by working the butter gets over-worked, and the grain or texture injured. This butter will not keep well. Nothing but washing with good clear water will ever extract the milk thoroughly, or make good keeping butter."

The results of a few experiments with the lactometer authorized by the N. Y. Board of Health show as follows:

Good milk should mark from 100° to 108° when at the temperature of 60°. If water is added to this milk, the lactometer will fall in proportion to the quantity added. If the milk is skimmed, the lactometer will rise as high as 120°. But add to this skimmed milk say two or three quarts of water for every forty quarts of milk, the lactometer will fall to 108°, which is the test of good average milk. Again, add another quart of water to this already diluted skimmed milk, and the lactometer will indicate 105°, or still better milk.

Another experiment will further demonstrate the utter worthlessness of the lactometer approved by the Board of Health as a test of the quality of milk. If two ounces of salt are dissolved in two quarts of water, the lactometer plunged in this brine will show 102°, or the same as first-class rich milk. Salt water like this can be easily whitened with chalk, a little milk or anything that will color it sufficiently.

One of the best informed and most trustworthy breeders makes some timely comments on the present Jersey high pressure, showing an appreciation of the situation well worth attention and respect. "What folly," he says, "to pay \$5,100 for a bull, as was done at a recent sale, and over \$3,000 for another, and almost as high for each of several cows! Well, these extravagant prices will soon go down, as was the case with Shorthorns a few years ago. Milk-fever is alarmingly prevalent with Jersey cows, and many a death I hear of which don't get into the papers. These deaths are owing to the wickedness—for it deserves no milder term—of stimulating the poor creatures to make a great milk and butter record. It is unnatural, cruel and wasteful. Till this baneful practice was begun milk-fever was almost unknown among Jerseys. Now we see what a curse follows it!" Not only is there "a man back of" these statements but he is well supported by facts, some of which, as he observes, are carefully kept dark in the interested circle.—[Tribune.]

STOCK NOTES.

(Continued from page 28.)

Powell Bros., "Shadeland," Springboro, Penn., are still making large additions to their present large and complete collection of pure bred live stock, having this week received a shipment from France, one from Scotland and one from the Shetland Islands, consisting of Percheron-Norman and Clydesdale draft horses and Shetland ponies, including some of the finest specimens ever imported. Another shipment will arrive very soon.

The Earl of Bective's Shorthorn bull, Duke of Underley, 33745, was found dead in his box on the 6th inst. He had been ill for some days previously, but his complaint was not regarded as one of a serious character. Duke of Underley was out of Duchess of Geneva 10th, one of Lord Bective's purchases at the famous New York Mill's sale, and after Mr. Campbell's Duke of Oneida 2nd, 33702. He was calved on January 18th, 1874, and stock after him have been sold for about £6,000, there being still in the Underley herd from fifteen to twenty females descended from him. Duke of Underley has been considered by admirers of the Bates' strains to be one of the most desirable of sires, and he has left a large number of valuable animals.

(Continued on page 32.)

NEW ADVERTISEMENTS.

Extensive Auction Sale

SHORTHORN CATTLE

—AND—

CLYDESDALE HORSES,

The property of MESSRS. HERON & SON, Dalmore Farm, Lot 29, 9th Con., Whitby, on

Thursday, 18th January, 1888.

The following valuable property: 20 Cows and Heifers, 8 Bulls and Bull Calves, 1 imported Filly 3-year old, in foal to Prince Imperial (1258), and 6 Stallions from imported and Canadian-bred mares.

Conveyances in attendance at Myrtle Station evening previous and day of sale. Myrtle is ten miles north of Whitby, which is thirty miles east of Toronto. Catalogues on application.

L. FAIRBANKS, Auctioneer.

MESSRS. BEATTIE & MILLER will hold a sale of Shorthorns, Clydesdales, Shropshires, Oxfords and Cotswolds the day previous at "Thistle Ha." 205-a

FOR SALE

A FEW

Choice SHORTHORNS,

Consisting of Four Young Cows and Two Young Bulls. Two of the Cows have just been imported and are in calf by the pure Booth Bull, Arthur Victor who is in service at Sheriff Hutton's herd farm, where the cows were purchased. This celebrated herd, during the year from '78 to '79, gained 167 first prizes at the Royal and other leading Exhibitions in England and Scotland, 31 Cups, 9 Specials and 5 Gold Medals, besides 100 minor prizes. Two of the cows are roan, 2 red and white. The bulls will be fit for service in the spring. For particulars apply to

WM. LINTON,

Aurora, Ont.

FOR SALE

Six young Shorthorn Bulls, sired by imported British Statesman (42847). Four of their dams were 1st or 2nd prize winners at the Toronto Industrial and Provincial shows at London in 1881. Awarded first at both places for Herd of Bull and five females, and Breeders' Herd of five females at London; also three of their dams; 1st, 2nd and 3rd at Toronto Industrial in 1882.

JAS. RUSSELL,

Richmond Hill P. O.,
Ontario, Canada.

205-b



FARM & GARDEN IMPLEMENTS.
The Planet Jr. Seed-Drill, Wheel-Hoes and Horse-Hoes are without an equal in the world! We have never before offered them so perfect, or in such variety, nor published so clear and full a Descriptive Catalogue of them. We guarantee to interest every one who plants seeds or cultivates the soil. It is a beautiful descriptive work, of thirty-two pages, with over Thirty New Engravings, showing the tools at work among Onions, Beans, Celery, &c., and also contains a chapter on the proper Cultivation of Crops. Send your own address, and ten neighbors' most interested in Farming and Gardening, and we will mail it free. S. L. ALLEN & CO., Patentees and Sole Manufacturers of the PLANET JR. GOODS, Nos. 127 and 129 Catharine St., Phila., Pa.

IMPORTANT JOINT PUBLIC SALE OF

Shorthorn and Galloway Cattle, Clydesdale Horses, Cotswold, Shropshire and Oxford Down Sheep and Berkshire Pigs,

Comprising the entire importations of 1882 by John Miller, Brougham, Ont.; Simon Beattie, Markham, Ont.; and Wm. M. Millar, Claremont, Ont., on

Wednesday, Jan. 17, 1883,

Sale to take place at the residence of John Miller. Catalogues now ready.

Trains will be met at Pickering Station, G.T.R., and Markham Station, Midland R'y, the evening previous and morning of sale. 205-a

THE LONDON MUTUAL FIRE INSURANCE CO. OF CANADA.

NOTICE IS HEREBY GIVEN THAT THE annual general meeting of the members of this Company will be held at their Offices Richmond Street, in the City of London, Ontario, on

Wednesday, 31st January, 1883,

at the hour of Two o'clock in the afternoon, when a statement of the affairs of the Company will be submitted, and Directors elected according to the Act of Incorporation.

By order,

D. C. MACDONALD,
Secretary and Manager.

London, January 6, 1883.

205

IMPROVED Tree Pruners

6 feet...\$1.50
8 " " 1.75
10 " " 2.00

Sent to any station, freight paid, on receipt of price. The hook and knife are made of steel; white ash handle. The knife is worked by a wire rod.

Agents wanted.

A. JEFFREY,
71 Yonge St., Toronto.
205-c

The Victory CORN MILL THREE SIZES.

A complete success in grinding Cob and Corn together, also ALL other grains, coarse or fine. Self-sharpening plates, and warranted in every respect. Send for circulars. D. F. BUCHANAN, sales agent for Ont., Forest. 205-b

370 VIRGINIA FARMS & MILLS' JOURNAL, R. B. CHAFFIN & CO., RICHMOND, VA.



Will be mailed FREE to all applicants, and to customers of last year without ordering it. It contains about 175 pages, 600 illustrations, prices, accurate descriptions and valuable directions for planting 1500 varieties of Vegetable and Flower Seeds, Plants, Fruit Trees, etc. Invaluable to all, especially to Market Gardeners. Send for it!
D. M. FERRY & CO., DETROIT MICH.
205

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PRIZE—MEDAL—SEEDS!

MCBROOM'S

Illustrated Seed Catalogue and Amateur's Guide for 1883,

Containing a list of about one thousand varieties of Vegetable, Flower and Field Seeds, and a vast fund of practical information regarding time of planting, mode of treatment and cultivation of the soil, etc., will be sent free of charge and post-paid to all who apply. My Seeds are designated

PRIZE MEDAL SEEDS,

As the BRONZE MEDAL and Diploma at the Great International Australian Exhibition of 1877 was awarded to my house; also the following awards: Special Prize Provincial Exhibition, London, 1877, and highly commended, 1881. Highly commended Western Fair, 1878, '79 and '80. No other awards given. Diploma for best display Southern Counties' Fair, St. Thomas, 1882. Diploma at Central Fair, Guelph, 1882. Highly commended with recommendation for Diploma Western Fair, 1882.

LIBERAL PREMIUMS will be given on orders of one dollar and upwards. With few exceptions seeds will be sent to all parts of the Dominion, **Postage pre-paid.** Send your address on postal card for copy of catalogue to

GEO. MCBROOM,
PRIZE MEDAL SEEDSMAN,
London, Canada.

205-4f

WELL AUGERS

—AND—

DRILLS!

ARTESIAN WELLS! For House, Stock Ranch, Small Water Works, Irrigation, or deep and common Wells in Earth or Rock. **OUR OLD RELIABLE RUST WELL AUGER** will find Water at is no Rock, every trial.

PRICE OF EARTH TOOLS:

One 12 inch Earth Auger, with Derrick Irons, Turning Levers, 60 feet best Gas Pipe Shaftings and Couplings.....\$100 00
Same Rig, with Shaftings for 100 feet..... 120 00

Over 1,000 of these Augers in use. Printed instructions and guarantees sent when tools are shipped. In ordering Earth Tools send half the amount with the order, and pay balance when you receive the tools. For Artesian Wells or any Wells where Rock is found, our

EAGLE MACHINE IS THE CHAMPION OF THE WORLD

and is shipped on trial—that is, a man sent to set up and test until customer is satisfied, before any payment is required

PRICE OF DRILL TOOLS:

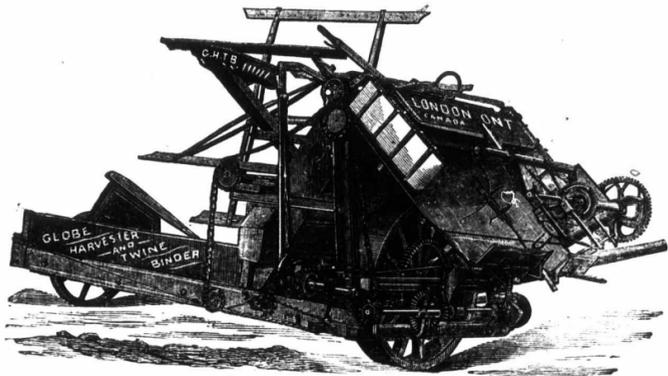
Best Eagle Machine, with 500 lb. drill, 2 six inch Z bits, Horse Power, and 200 ft. rope with man to set up and test, \$450 00. Same Rig, with 4 H. P., Engine and Boiler, Smoke Stack and Belt.....\$685 00
Same Rig, without Engine or Power..... 400 00
Several of these Machines are now in every State.

JOHN ELLIOTT, Lipan, Hood County, Texas, writes me: "I have set up 4 of your Eagle Machines. All give good satisfaction." R. S. SEATON, Lampass, Tex., writes me: "My Eagle Machine is doing good work, as is also the one you sold Mr. MARTIN of this place. I want another in the Spring." We have low freight contract, and prompt delivery guaranteed. Please order direct, or send for descriptive catalogue.

205-1

O. RUST, St. Joseph, Mo., U. S. A.

THE GLOBE HARVESTER and TWINE BINDER.



Farmers should carefully examine this Celebrated Cord-Binding Harvester. It is automatic in binding, simple in construction and will be found the most complete Harvester and Binder now offered for sale. Send for Catalogues and full description to

GLOBE WORKS CO'Y,
London East P. O.

205-1

COTTON SEED MEAL

Finest food known for stock. Produces more Fat, more Flesh, and more Milk than any other food at same cost. Every farmer should give it a trial. Price, \$2 per 100 lbs., \$35 per ton, which is the cheapest food known for stock. Hon. H. M. Cochrane feeds 200 tons per annum of it.

Address—**PEARCE, WELD & CO.,**
Seed Merchants, Market Square,
LONDON, ONT.

Also on hand **Straw and Root Cutters**
Corn Shellers, &c., &c. 204-a

I. C. FELL & Co.,
ENGRAVERS,
EMBSERS, & C.,
7 Adelaide St E. TORONTO

METAL RUBBER DATING STAMPS WAX & PRESS SEALS
Illustrated Catalogue sent on application.
198-1

RUSSIAN MULBERRY

The Best Fruit-Timber and Ornamental Tree in America; also
RUSSIAN APRICOT.

For prices send to
CARPENTER & GAGE,
201-4 BOWER, JEFFERSON CO., NEB.

J. N. ANDERSON,
M. D., M. C. P. S.
Ont.—Eye and Ear Surgeon, 34 James St, Hamilton, Ont. Dr. Anderson gives exclusive attention to the treatment of the various diseases of the EYE and EAR.
183-4 CROSS EYES STRAIGHTENED.

DR. W. E. WAUGH,
OFFICE—The late Dr. Anderson's, Ridout Street,
LONDON, ONT. 195-4f

Canada's Great Business University!

THE LONDON COMMERCIAL COLLEGE

—AND—

TELEGRAPHIC AND PHONOGRAPHIC INSTITUTE

has for nearly a quarter of a century enjoyed a reputation unequalled by that of any similar institution in Canada. Hundreds of farmers' sons, full of energy and ambition, have secured the very best positions in large Manufacturing Establishments, Wholesale and Retail Mercantile Houses, Banking Institutions, Railway and Insurance Offices, &c.; after taking a few months' course with us.

Those who wish to become Telegraph Operators or Shorthand Reporters should enter at once and take a course, as operators are wanted on the various railway lines, and shorthand writers are in demand in all departments of business.

Ladies as well as Gentlemen are in attendance in all departments of the College. Students can enter at any time. No examination is required. For pamphlets containing full particulars address

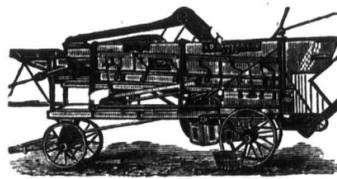
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WM. N. YEREX, President.

HAMILTON AGRICULTURAL WORKS

The Pioneer Threshing Machine Works of Canada.

ESTABLISHED 1836.



Our Celebrated GRAIN SAVER is the Best and Most Perfect THRESHER and SEPARATOR made in the Dominion, being first over all others for

Durability, Workmanship, Fast & Clean Work, Perfection of Parts, Ease of Management, Simplicity of Construction, Lightness of Draft, Capacity for Work.

We have Machines working in all parts of Canada, giving the very best satisfaction, when driven by either **Steam or Horse Power.**

It is a General Favorite with the Farmers, who prefer it for Fast and Clean Work.

SPECIAL SIZE MADE FOR STEAM POWER.

Address us for Circular and Price List of THRESHERS, CLOVER MILLS, HORSE POWERS, REAPERS AND MOWERS. A personal inspection is solicited.

173-leom

L. D. SAWYER & CO.,
HAMILTON, ONT., CANADA.

Intercolonial Railway.

The Great Canadian Route to and from the Ocean.

For Speed, Comfort & Safety is Unsurpassed.

Pullman Palace, Day and Sleeping Cars on all through Express Trains.

Good Dining Rooms at Convenient Distances.

No Custom House Examination.

Passengers from all points in Canada and the Western States to Great Britain and the Continent should take this route, as hundreds of miles of winter navigation are thereby avoided.

Importers and Exporters will find it advantageous to use this route, as it is the quickest in point of time, and the rates are as low as by any other.

Through freight is forwarded by FAST SPECIAL TRAINS, and the experience of the last two years has proved the Intercolonial route to be the quickest for European freight to and from all points in Canada and the Western States.

Through Express trains run as follows:

GOING EAST.

Leave London..... 2:00 a. m.
 Montreal..... 10:00 p. m.
 Quebec..... 8:10 a. m. next day.
 Arrive St. John, N. B..... 7:30 " day after.
 Halifax, N. S..... 12:40 p. m.

GOING WEST.

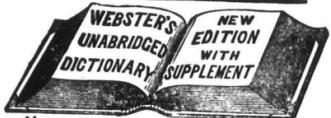
Leave Halifax..... 2:45 p. m.
 St. John, N. B..... 7:25 " "
 Arrive Quebec..... 8:20 " next day.
 Montreal..... 6:00 a. m. day after
 Toronto..... 10:52 p. m. day after

The Pullman cars which leave Montreal on Monday, Wednesday and Friday, run through to Halifax without change, and those which leave Montreal on Tuesday, Thursday and Saturday run through to St. John, N. B., without change.

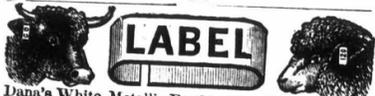
All information about the route, and also about freight and passenger rates will be given on application to

R. ARNOLD,
 Ticket Agent, Cor. King and Yonge Sts., and 20 York St., Toronto.
 R. B. MOODIE,
 Western Freight and Passenger Agent, 93 Rossin House Block, York St., Toronto.
 GEO. TAYLOR,
 General Freight Agent, Moncton, N. B.
 A. S. BUSBY,
 Gen'l Passenger and Ticket Agent, Moncton, N. B.
 D. POTTINGER,
 Chief Superintendent, Moncton, N. B.
 Railway Office, Moncton, N. B., 28th November, 1882. 205-4f

WEBSTER'S UNABRIDGED.
 In Sheep, Russia and Turkey Bindings.



"A LIBRARY IN ITSELF."
 GET THE BEST THE STANDARD.
 Webster is the Standard of the U. S. Supreme Court and in the U. S. Gov't Printing Office. It has all along kept a leading place, and the New Edition brings it fairly up to date.—London Times, June, 1882.
 No school in the Dominion, no teacher, and no reader of the language, can afford to be without this monumental work.—Canada Educat Journal.
 It has come to be recognized as the most useful existing "word-book" of the English language, all over the world.—N. Y. Tribune, 1882.
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STOCK NOTES.

(Continued from page 30.)

Mr. John Hill, of Felhampton Court, England, has sold to the Hon. W. Pope, Minister of Agriculture, Canada, the two-year-old heifers Minnie 6th and Plum 4th.

Mr. George Whitfield, of Rougemont, P. Q., has issued a catalogue of his thoroughbred cattle comprising Shorthorns, Devonshires, Sussex, Polled Angus, Galloways and Herefords.

To the 8th ult. only two steamers with live stock on board, and four with dead meat arrived at Liverpool from the United States and Canada, bringing a total of 682 cattle, 3,760 sheep, 4,097 quarters of beef, and 974 carcasses of mutton. The figures show a slight increase in live stock, and a decrease in dead meat in comparison with the arrivals for the previous week.

A large steer of the olden time.—The following dimensions and weight of an ox fed fifty years ago, by Lord Yarborough, we transcribe from the Agricultural Gazette, England. Live weight, 3,112 lbs.; 5 ft. 6 in. at shoulder; 11 ft. 10 in. from nose to setting of tail; 11 ft. 1 in. in girth; 3 ft. 3 in. across back in three places, viz.: hips, shoulder and middle back; 1 ft. 2 in. from breast to ground; 9 in. in girth of fore leg; 1 ft. 10 in. between the forelegs. The enormous weight of the Pelham cattle in Lincolnshire, was written of fifty years ago. The heaviest weight show ox was Mr. E. Wortley's, at a weight of about 26 cwt—2,912 lbs.

An important sale of Christmas fat stock took place at the Prince Consort's Show Farm, Windsor, under the hammer of Messrs. Buckland & Sons, auctioneers, of Windsor. The sale consisted of 40 Shorthorn and Hereford beasts, 585 Down, Cheviot and Highland sheep, and 105 good bacon hogs and porkers, the whole having been expressly fattened for this sale under the care of Mr. W. H. Tait, the manager of Her Majesty's farms at Windsor; and also 18 Shorthorn bullocks, the property of the Duke of Connaught, and fed at Bagshot Park. There was a large attendance of buyers, and the whole stock was considered to be of unusual excellence. Down sheep fetched from £6 10s. to 77s. 6d. each; tegs, from 77s. to 72s.; beasts, from £42 to £58; bacon hogs from £13 to £14; porkers, from 70s. to £9 each. The sale altogether was a great success.

Mr. Peter Arkell, of Teeswater, Ontario, has recently sold for breeding purposes one pair of Oxford Down ewes to Mr. George Telbot, Mildmay, one pair to Mr. James Tolton and Mr. A. Tolton, both of Walkerton, one pair to Mr. H. A. Shaw, Walkerton, one pair to the Agricultural Farm, Prince Edward's Island, two ewes and ram to Mr. H. Wharton, Eden Mills, all imported stock. One ram to Mr. James White, Guelph, one ram to Mr. James Colton, Teeswater, one ram to Mr. James Colton, Province of Quebec, one ram lamb and one Cotswold ram at the Kingston Exhibition, one Cotswold ram to Mr. H. Iles, Eden Mills, 20 Cotswold ewes and 3 rams to Mr. H. Arkell, of Arkell, one Cotswold ram to Mr. L. Stifter, of Formosa, one Cotswold ram to Mr. A. M. Donald, of Teeswater, and one Oxford ram to Mr. John Bailey, county Victoria.

For some years past Lord Polwarth has been known and acknowledged to be one of the most spirited breeders in the country, and by numerous costly, but judicious purchases, he has gathered together a herd of Booth cattle, which for extent and purity of breeding has never been equalled in Scotland. Only a few weeks ago the Kelso Chronicle noticed that his Lordship had hired from Mr. B. St. John Ackers the splendid Christon bull Royal Gloucester 45,525, for the season, at 300 guineas, and now we learn that his lordship has arranged to purchase from the same gentleman's rich Booth herd the four-year-old Mantalini cow (bred by Lady Pigot), Victoria Rubra, by Septimus 37,429, from Victoria Pulchra. It will be in the recollection of many that at the recent Prinknash sale, Lord Polwarth purchased Victoria Capillosa, a daughter of Victoria Rubra, and these two, with the Victoria purchased from Lady Pigot many years ago, and her produce, will form a choice collection of this favorite branch of the Mantalini. His Lordship also takes from Mr. St. John Ackers Lady Carew 12th (a red roan, calved in January last), by Lord Prinknash 2nd, 38,653, from Lady Jane by Baron Killerby 23,364. This heifer is one of the best of the famous prizetaking Ladies Carew, and possesses grand shapes, rich color, rough hair, and fine character.

Press of space compels us to lay over several notices

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For Rheumatism, Neuralgia, Spinal Irritation and Weakness, Lumbago, Sprains, Contraction of the Tendons, Ague in the Breast and Face, and all pains situated in any part of the body.

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Any of the above useful books will be mailed post-paid, from the FARMER'S ADVOCATE Office, on receipt of price named, and for books under \$1, 5c., and over \$1, 10c. additional to cover postage, etc.

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THREE PRIZES!

of \$40, \$25 and \$15, for the three best essays on the three following subjects:—The Theory and Practice of Cheese Making, together with the proper curing of the same for the English markets. The same prizes will be offered for the three best essays on Butter Making for exportation. And three prizes of a like amount for the three best essays on Dairy Farming.

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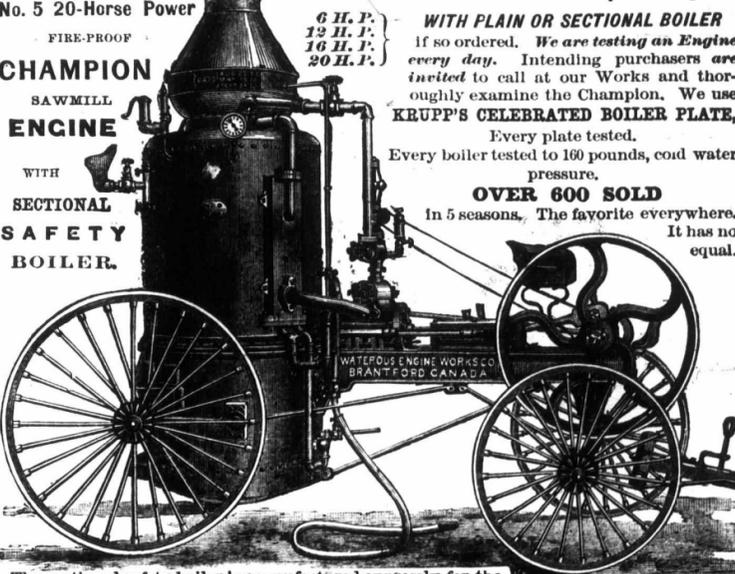
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