

FARMER'S ADVOCATE

AND HOME MAGAZINE

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THE FARMER'S ADVOCATE

—AND—
Home Magazine.

WILLIAM WELD, Editor and Proprietor
—FOUNDED 1866.—

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Published in the Dominion.

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"Homeward."

In our Home Department will be found a small engraving, which but faintly suggests the merit and beauty of the large copy of this picture published lately at \$2 each. By a special arrangement with the publishers we are enabled to give to each paid-up subscriber who sends in the names of two new subscribers, with the annual subscription, one copy of this engraving.

The Provincial Board of Agriculture and Arts.

We accidentally heard of the meeting of the Board and deemed it our duty to you to attend and see what new material the last election, or selection, had chosen to represent your interests there. We are much pleased to inform you that most of the recently elected members appear desirous of using their efforts to advance your interest. The preponderance of power is yet in the hands of old and experienced hands, many of whom have directly or indirectly sustained the past acts of the Board, which may tend to trammel them. The new men have a good task in hand, and if none of them allow themselves to be bought or frightened, they will do much good, and perhaps the lost prestige and popularity of the Provincial Association may be restored. We feel satisfied that the new members are right and the independent farmers of Canada are on their side, and if they remain

firm to the principles expressed by them at their first meeting they will soon dispel the darkness that has for such a long series of years enshrouded the old Board and light may again be seen.

Mr. W. Saunders, of London, the President of the Entomological Society, dropped a bomb shell in the midst of the Society on the morning of the first meeting. Some of the old members tried to throw it out of the camp, but the new men got round it and protected it, and now you may look out for the burst. Some one will be killed, others will be badly hurt, and we caution you all to get far out of harm's way as soon as possible. The blinding smoke, the bullet, the shell, etc., etc., will make such a disturbance as you never before witnessed. This is the bomb shell:—

A COMMITTEE OF ENQUIRY.

Mr. Saunders, in view of the many severe animadversions in the press and Local Parliament regarding the Association, moved the following:—
"That a Committee be appointed to enquire into the working of the Association with a view of devising plans to add to its usefulness and for more efficiency in carrying out the objects for which the Association was organized, the Committee to consist of the following:—Messrs. White, Parker, Rykert, Mills, Drury, Carnegie, Dempsey, Young, Jackson, McKinnon, the President, and the mover."

Mr. Klotz, of Preston, on seconding the motion, said that they must all feel that they were now upon their trial. Many thought that their usefulness was gone now that other Exhibition Associations were in the field, which were self-supporting. They should devise some plans to show that they were still able to do a great deal of good.

Mr. Drury, of Crown Hill, thought they ought not to "give themselves away," as might be inferred from the motion. They were accused of mismanagement, etc., etc. Before they admitted that they were not doing a good work they ought to have some proof adduced to that effect.

Mr. Carnegie, of Peterboro, thought there was room for changes, and he would like a large committee to prepare a full report for presentation at their next meeting. In some respects they were tied down by the Act creating the Association. He had intended to move a resolution similar to that of Mr. Saunders, and he heartily supported it.

Mr. Parker, of Woodstock, said that in Division No. 9 the question now before them had been discussed, and the impression that the Board was extravagant in paying \$17,000 for awarding \$13,000 in prizes, as had been stated. He himself favored the continuation of the itinerant character of the exhibition. If they showed a desire to manage the affairs economically and wisely they should, he thought, regain the confidence of the public. He did not wish to reflect upon the old management, but the new members might be excused if they asked for fuller information regarding the affairs of the Association. The publication of the report suggested would, he thought, bear good fruit. The public wanted an official report, and not merely what newspaper reporters chose to report.

Mr. Carnegie suggested that the report of the Committee be printed before the annual meeting of the Association at London, and that the opinions of all the members should be asked in reference to it.

Mr. Young, of Galt, was of opinion that it would

be best to confine the confirmation of the report to the Council.

Mr. Saunders desired at least a partial report from the Committee at the present meeting, especially with reference to the financial arrangement, as it was with that view he had made the motion.

The motion was carried.

Mr. Jackson desired that his name might not be put on the Committee, as he would like to criticize their work.

Mr. Young desired his name to be taken off, as he was an M. P. P. Mr. Young's name was then taken off.

Mr. Rykert said the local committees were too large and getting to be an intolerable nuisance. He moved that the number be limited to twenty, which was carried.

The first smoke from the fuse of the bomb shell causes the Secretary to resign. Some other recipient of our monies may be in fear and trembling, and the wisest course for them to pursue would be to act as the Secretary has done, namely, to resign. This course would save them much trouble.

It was decided to hold the next Provincial Exhibition in London.

The prize list has been revised.

Mr. Brown, of the Model Farm, suggested that \$40 be awarded to the best Polled Aberdeen Bull.

Mr. Carnegie objected to giving so high a prize to this class of animals. He said it was placing them before other cattle that might be as meritorious. He favored giving to them as high prizes as was awarded to Ayrshires and Jerseys, which was quite sufficient to grant to that class. He also said the farmers had none of them to compete for the prize.

Mr. Brown, of the Guelph College, said we have some, and a gentleman in Quebec has some, and there are some in the United States.

Mr. Young, M. P. P., supported Mr. Brown in his motion, which was seconded by Mr. Moore.

Avery, Legge, Moore, Young, Brown, Drury and others voted for it.

Nays—Carnegie, Parker, Hunter, &c.

Thus you see the money that should go into your pocket to encourage you is directly voted for the advantage and benefit, or rather the whim, of the Model Farm Manager. What benefit can it be to award this money when no farmer in Ontario has this class of stock? This is not the only instance when the prize list was altered for the benefit of the Model Farm. We did not catch all the votes that were cast pro or con, but this was what we considered the nearest to a test question, and by it could form a slight opinion of who were really advocating the farmers' interest. We must pay to import the animals; we cannot compete and must pay the prizes. If these expenditures, under the name of the encouragement to agriculture, are to be continually manipulated as they have been, the sooner such expenditures are stopped the better for the farmers.

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English Letter, No. 24.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, March 2nd.

I have, in previous letters, referred to the projected employment of the "Great Eastern" in the Texan cattle trade, and expressed my incredulity as to its success. The projectors seem to have had serious doubts too, for they have given up the scheme, even without a trial, and the mighty ship is still without employment.

The cattle trade in this country has undergone another important phase. The alarming spread of foot and mouth disease in many counties has led to the passing of new orders in Council, which are to the effect that any animal can only be exposed in one public market before slaughter, and must be taken away from such market and killed within ten days. These regulations, which are being rigidly enforced, will have a considerable effect on the Canadian cattle trade; for though Canadian stock may arrive here in perfect health, they, in passing from one market to another, would convey disease as readily as home bred stock, and the new regulations therefore apply equally to them. The markets are, as a consequence, very flat indeed; but it is believed that the depression will be only temporary, and that with the advent of spring and more genial weather the disease will be so checked as to admit of these new regulations being rescinded. I have lately been among the Cumberland farmers in connection with a parliamentary election there, and I can answer for it that they have the good sense to see the necessity for these measures; they are exclusively worried and annoyed by their action, and any attempt to enforce them a day beyond the time that their necessity was apparent would imperil the better understanding that seems to be springing up between the farmers and the Liberal government.

I have already referred to the extent to which Polled Aberdeens are coming into favour. Mr. Geo. Wilkin, of Waterside, Forbes, Aberdeenshire, who was one of the first delegates to Canada, has just shipped a valuable consignment of these cattle to the Hon. J. H. Pope. I referred in my last letter to Mr. Pope's enterprise in this direction.

The other day another shipment left Dundee, per the S. S. Roxburg Castle, for New York. This lot consisted of 16 head, the purchaser being Mr. F. B. Redfield, of Batavia, New York, who secured several animals of the same breed about eighteen months ago. Mr. Cochrane, of Hillhurst, arrived yesterday in the Germanic, and it is his intention, I am informed, to purchase upwards of 50 young bulls, principally Herefords and Polled Aberdeens, which, after having passed quarantine, will be sent to his cattle ranch at the foot of the Rocky Mountains, on Canadian territory. Mr. Cochrane will also import two or three stallions.

The Hon. John Abbott, of Montreal, who also arrived by the same steamer, who has already had some experience with the Cleveland bay carriage horses, intends to select and send out a few more stallions of this breed.

The Americans are buying largely of both Herefords and Shorthorns, and there is also at present a considerable demand for Jerseys. A consignment of 60 of this latter breed left this port for Philadelphia a few days ago.

Mr. Angus, one of the moving spirits in connection with the great Canada Pacific Railway enterprise, was also an arrival per the Germanic. In conjunction with Mr. Geo. Stephen, he will at once commence arrangements for promoting that great enterprise in Europe.

The new Allan steamer Persian arrived in the

Mersey on Tuesday, on her trial trip from the Clyde. She is a splendid specimen of marine architecture, and will no doubt find plenty of admirers when she reaches the St. Lawrence. The Cunard Company, not to be beaten, have just launched the *Servia*, the largest vessel afloat after the *Great Eastern*. It would seem as though the great companies had abundant faith in the future of the trans-Atlantic trade.

A writer in the *Liverpool Mercury*, dating from Winnipeg city, is very severe on your government and its treatment of immigrants, and after assuming that many, in disgust, seek the embraces of "Uncle Sam," expresses like surprise at it. His letter, however, is full of glaring inconsistencies, which detract from the vein of truth which may run through it. For instance, after sitting heavily on the Canada Pacific Railway and everything belonging to it; complaining that it will be a millstone round the necks of Canadians for generations to come, he, with an amusing disregard of all he has just advanced, proceeds to declare that the great want of the North-west is adequate railway communication, in order to get immigrants quickly, cheaply and comfortably to their settling places. I think none but a "Yankee" mind could reconcile these antagonistic statements within the compass of one letter.

Our winter has been unusually severe, and shows no sign yet of giving place to spring. There have, however, been a few dry spells, and farmers have made good use of their time, so that things agricultural may be said to be fairly well advanced.

From the United States.

[BY OUR OWN CORRESPONDENT.]

Washington, D. C., March 18, 1881.

The last report of the Botanist of the Department of Agriculture contains an analysis, together with a description and figure, of some twenty-five additional species of native and naturalized grasses, most of which are known to be more or less valuable for forage or hay. A few of these are adapted to cultivation in the more northern latitude of Michigan and Canada. Of Couch grass, or Quack grass, he says:

"There has been a good deal of discussion relative to this grass, some pronouncing it one of the vilest of weeds, and others claiming for it high nutritive qualities, overweighing all the disadvantages of its growth. Whichever party may be right, it is proper that farmers should be acquainted with it, in order to know how to treat it. It forms a dense sod by means of its far-reaching, creeping rhizomas or root-stalks, which have short joints, and root tenaciously at every joint. Hon. J. S. Gould in writing of these grasses says; "The farmers of the United States unite in one continuous howl of execration against this grass, and it seems strange when every man's hand is against it that it is not exterminated. Yet we can never really satisfy ourself that its presence in meadows and pastures was such an unmitigated curse. In lands where alternate husbandry is practiced it must be admitted to be an evil of great magnitude. Its hardness is such, and its rapidity of growth is so great, that it springs up much more rapidly than any other crop that can be planted, and chokes it. Still it has many virtues. It is perfectly cosmopolitan in its habits; it is found in all sorts of soils and climates. Its creeping roots are succulent, sweet and very nutritive, and are greedily devoured by horses and cows." The Botanist adds, that its very persistence and hardness are greatly in its favor in cases where the land is wanted for a permanent pasture.

Wire grass, or Blue grass, is a species which has often been confounded with the famous Kentucky Blue grass, from which it differs in many particulars. Many contradictory accounts have been given as to its agricultural value, some denouncing it as worthless, and others speaking well of it. Our report says: "It is certain that cows that feed upon it both in pasture and in hay give *more milk* and keep in better condition than when fed on any other grass. Horses when fed on this hay will do as well as when fed on timothy hay and oats combined.

Of Orchard-grass, one of the most popular meadow grasses of Europe, and well known to most farmers of the Northern States, he says: "The testimony that has been collected from all parts of the world for two centuries past, establishes the place of this species among the very best of our forage grasses, and we have not the shadow of a doubt that the interests of our graziers and dairy-men would be greatly promoted by its more extended cultivation. It is always found in the rich old pastures of England, where an acre of land can be relied upon to *fatten* a bullock and four sheep. It is admirably adapted for growing in the shade, no grass being equal to it in this respect, except rough-stalked meadow grass.

Agriculturists and stock men seem to be taking a renewed interest in the Prickly Comfrey as a forage plant. Many requests from different parts of the country have been sent to the Agricultural department for seed of the prickly comfrey, which is a coarse-leaved plant, remarkable for the prickly bristles with which it is closely beset, and which have long been known and frequently recommended as a forage plant, but for some reason never generally cultivated. Cattle are said to eat it and to thrive upon it with apparent good effects, and the yield is described as being ordinarily very large, sometimes enormous; but thus far it has not taken a high rank among our forage plants. A new interest is however being taken in its cultivation, as the correspondence with the department indicates, not only in this country, but in other lands, and especially in Australia. This prickly comfrey is a Caucasian plant, which was introduced into England from Russia many years ago. In its native country, immense herds of cattle and flocks of sheep were entirely dependent upon it for sustenance, and its large and succulent roots were frequently eaten by the inhabitants. It is not easily propagated by seed, which may account for its not receiving more attention. The difficulty has been overcome partially by the use of cuttings, but effectually by a system of cutting the roots, by which means the plant may be indefinitely propagated with great ease. The director of the Botanic Garden, at Melbourne, Victoria, writes that he considers it a very valuable fodder plant, even if we take a moderate estimate of its productive powers, yielding as it is said to do, more than 80 tons to the acre. It is also recommended for its extreme hardness, neither heat nor cold being prejudicial to its growth. In England, a general interest seems to have been aroused by a statement made by an eminent seedsman several years ago, that it would produce from 60 to 100 tons to the acre; that it is especially adapted to the feeding and fattening of stock, and for increasing the milk of cows, that it grows more rapidly and luxuriantly than any other green soiling plant; that it is a reliable crop, independent of weather and climate; that it comes in earlier and lasts longer than any other crop, and finally that it makes a very nutritious hay for cattle, horses and sheep. The farmers of this country in their application for seed, manifest their willingness to test the truth of the English seedman's glowing praise, by actual experiment. Canadian farmers might do the same.

LOTUS.

French Fat Stock Shows—Nevers and Paris.

Fat Stock Shows are annually held all over France. This year they commenced in February. According to the English Agricultural Gazette, the Canadian farmer would find little to interest him except at Nevers and Paris. And at these shows it will be interesting to notice the prominent place held by the various English breeds of cattle, sheep and swine, which are also common with us. At Nevers there are almost as many animals of the Shorthorns, Southdowns and Leicesters as of the native breeds. At this show there are 170 entries of fat cattle, sheep and pigs, and several hundred pens of poultry. Breeding stock and implements are also shown; the present exhibit is quite as good as that of any preceding year. The Charolais-Neversais breed has some magnificent representatives among the fat stock, the best of all being a four-year-old ox which won the gold medal given by the Societe des Agriculteurs de France for the best beast in the show. (This animal also won first in his class at Paris the following week.)

The Shorthorns were not well represented, though they are much liked in this vicinity, and seem to do better here than anywhere else in France.

In the section of breeding stock the great feature was the display of Charolais-Neversais bulls of all ages—240 in all—and it is worthy of note that this collection of bulls is not got together so much with a view of prize winning as of enabling buyers and sellers to come together and transact business. Before the show closes nearly all these bulls will have changed hands, and the best specimens will, no doubt, bring good prices. There is a tendency to create, as in the case of the Devons in England, two separate breeds, one with smaller bone as butchers' animals before everything else, the other with bigger bone as workers first and then fattened.

In the sheep department there were only twenty-one pens, made up of Southdowns and Leicesters; the Southdowns won all the pen prizes. The sheep shown, though of fair quality, would not have been considered first class in England.

The pigs, of which there were thirty-seven pens, were very good. Among those winning the principle prizes are many having a strong dash of English blood.

One of the most beneficial effects of the Nevers Agricultural Society's efforts has been to stimulate the breeding of cart horses, and every year there is an exhibition of animals bred in the department from stallions and mares which have been purchased by the Society. Some fifty or sixty of these horses were exhibited, and old residents in the district say that the improvement in their horses since this experiment was tried has been very marked. This is very satisfactory, and there does not seem to be any reason why a like experiment should not succeed in other countries. I believe that it has been tried with the best results by Mr. Walter Gilbey and others in Essex, England.

At Paris the display of cattle and pigs was thought better than that of any previous year. All live stock classes were never better filled; there were upwards of 300 entries of cattle, 117 of pigs, and 45 pens of sheep.

Among the cattle the champion prize for the best male in the show was won by a dun-colored Charolais steer, 47 months old. This beast is described as very massive with great depth throughout. He weighed 2,100 lbs. and was considered much better than any of the competing ones. The first prize in the class for animals under 3 years of age was taken by a cross between a Shorthorn and a Charolais. In this class, as in all older classes,

the prizes (there are eight in each) go to either Shorthorns or Charolais or a cross between these breeds. The other French breeds are more esteemed for their working qualities than as beef producers, though of late years they have been much improved in the latter respect. In the class for foreign breeds there were only four entries, all Shorthorns. None of them were of any great merit. The prize for the best female on the ground was won by a well fattened Shorthorn cow. She was not as large as the steer which won the champion prize as best male, but very much superior to him in form and quality; but as there was no prize offered for best beast irrespective of sex, the judges were not called on to decide between the two. It is a custom at most French shows to give prizes for groups of cattle and sheep; in the class for four steers or oxen there was a very large entry. The prize in this instance went to four 3-year-old Shorthorns.

The forty-five entries of sheep are, in the majority of cases, either Southdown or Leicester, and it would almost appear as if the old native breed of Merinos was dying out since the importation of so much wool from Australia, French breeders declaring that they cannot compete with the New World. The Southdown is now the favorite sheep in France, and these sheep seem to do well in most districts, and to make excellent crosses with the native short-wool breeds.

The prize for best pen of any breed was won by three wethers, the result of a cross between the Leicester and Cauchois breeds. They were very fine and possessed much quality, but were not equal to the pen of fifteen Southdowns which won the champion plate for best lot of fifteen belonging to one exhibitor.

Among the pigs the honors for single pigs and for pens were taken by animals of the Yorkshire breed.

All the live stock, with the exception of some of the poultry and the pigeons, were in the body of the hall, the galleries and side rooms above being filled with a fine collection of butter, cheese, vegetables, fruits, and other miscellaneous produce, and if space permitted I should like to say something about the 806 entries of butter and cheese, comprising as they do some splendid specimens of French dairy work. So, again, with regard to the 2,500 exhibits of implements and machinery which were on view outside the palace, among them being a great many of the best machines of English makers, but also some very creditable samples of what the native manufacturers can turn out. Here, too, the French are rapidly improving.

Success in Cheese Making.

Mr. W. Harris, of Mount Elgin, paid us a visit on the 21st of March, and said he had beat all Canada in the manufacture of cheese this year. He informed us that he took first prizes at Ingersoll, Hamilton, Toronto and London, and at every place where he exhibited; also that his May cheese sold at 10½c., June and July at 12c., August at 13c., September 14c., and the balance of the season at 15c; that after all the other factories had closed he bought milk and paid 12c. per 10 pounds, continuing to manufacture until the 13th of January. If any one can beat this we would like to hear of it. He says he had not one cull cheese this season. Besides wintering 80 heifers and cows, he raises considerable grain, and keeps 12 horses and 35 sheep, and has sold 130 tons of hay this winter. Mr. Harris contemplates trying a silo next season, as he wishes to have some green feed for his cows during the winter. The following is the plan he purposes to adopt:—To lighten part of a mow in his barn, put in a second cut of clover, then cover with planks covered with straw and weighted with pressed hay. If it succeeds we shall let you know.

The Culture of Onions.

Onions will grow, and, with proper culture, will yield a good crop on almost any soil. A light loam, however, is the most suitable for its growth. On such soil it is cultivated with less labor and produces heavier crops. It is necessary that the soil, whatever may be its quality, be made very rich. On poor soil without a heavy application of manure a good crop of onions cannot be obtained. The most profitable onions for the gardener to raise are those grown from seed. The ground chosen for the onion plot must be put into a thorough state of cultivation by ploughing and harrowing if in field culture, or by the spade and rake if in the garden. The manure applied should be well composted and rotted, and should be kept near the surface. The onion does not strike its roots deep into the soil. It grows on the surface, and the manure should be so placed that the rootlets of plants will get the full benefit from the plant food.

If sown on a large scale the seed is sown by a machine, which opens shallow drills and in them drops the seed, which is then covered by the roller. In garden culture the drills are opened by a hoe or long dibbler, and the seed is sown by the finger and thumb about three or four inches apart and the drills a foot apart. It may be covered with the back of a garden rake and "firmed" with a garden roller or pressed well with a plank. This is especially necessary on a light, sandy soil to prevent the rapid evaporation of moisture.

Do not let weeds take possession of the soil and so rob the growing crop of its required food. This prevention of weeds can be easily done by frequently cultivating between the rows with the scuffling hoe.

The onions mostly grown from seed are the Strasburg, a dark colored onion that grows large and is a good market variety, and the Yellow Danver, a prolific cropper and hardy. The Yellow Danver is the best keeping onion. The white or silver skinned grows to a large size, and is the mildest flavored of the family, but not so hardy as the others. It is much used for pickling.

Onions are always harvested in August. They are lifted by digging lightly under the row with a light fork; left on the ground till quite dry, and are then placed on shelves to complete their drying before being put into barrels. The produce is generally from 150 to 200 bushels per acre.

Potato onions are the best of all for family use. They are grown by planting bulbs in the spring in rows a foot apart and five or six inches apart in the row. The increase is formed by the bulb splitting and dividing into six or eight bulbs.

The Top, or Tree, Onion is propagated from small bulbs that grow in a cluster on the stalk in place of flowers. They are planted and cultivated as other onions, and yield well, but do not keep late in the season. They come into use earlier than any other.

As good a way as any to utilize bone dust, and have it prepared for immediate plant food, is to mix it with barnyard manure. Heat is soon generated, and decomposition of the bone dust and the manure takes place. Barnyard manure generally lacks phosphoric acid, while bones contain a large quantity. A ton of pure bone dust contains as much nitrogen as eight and a half tons of fresh stable manure of an average quality. The quantity of phosphoric acid contained in the manure depends upon the kind of food consumed by the animals, though the ton of bone dust contains as much phosphoric acid as 110 tons of stable manure, but one ton of the latter contains more potash than five tons of bone dust.

Continued from page 81.

The present Board, or the new members of it, are taking hold of their business in earnest, and are cutting off a lot of useless expenditures, the largest of which was an annual grant of \$515 to the Ontario Veterinary College. This was reduced to \$100. The services of a messenger at \$300 per annum was also cut off. The number of Judges was reduced from 220 to 155. The gate keepers wages are reduced from \$4 to \$3 per day. Mr. Morgan suggested that the payment of the council be reduced from \$4 to \$3 per day, but on being asked to make a motion to that effect he declined.

Mr. S. White moved that steps be taken to secure a grand gathering of the Grangers and farmers' clubs at the next Exhibition in London. Carried.

HOW PROVINCIAL JUDGES ARE APPOINTED.

Mr. Parker described the manner of appointing a judge at the Mechanics' Institute of Woodstock. Half a dozen of the Directors of the Institute, he said, were sitting on one occasion around a table transacting miscellaneous business when the communication requesting them to appoint three judges arrived. The President read the letter and asked, "Is there anybody here who wants to go to the Provincial Exhibition?" He then turned to one who said he had no time. Another said, "Yes, I guess I'll go." It was then asked, "Will you go as judge of cloths or as judge of agricultural implements?" "Oh, yes," was the reply, "either—I'll get my five dollars anyway." That was the system as he knew it.

Mr. Young denied that representative bodies sat down in the manner spoken of, and appointed incompetent men as judges.

Mr. Carnegie—They do do it, though.

Farmers, you may now begin to see the reasons why the old Board and their supporters and sub-servants have labored so strenuously to suppress the repeated charges that have been made against the management of this institution for a long series of years. Now, every effort will be made to bury that bomb shell, or wall it in, but, despite all that can be done, light must dispel darkness, and the sooner the better. Mr. W. Saunders, although an old member of the Board, has always desired to do good to the Association and to the country. When at the hotel, after the bomb shell had been properly landed, he kindly enquired of your humble servant if we had any suggestions for the improvement of the Association. We replied we had three important points which we aimed to attain for the farmers, if it were possible. Mr. Saunders asked what they were. We replied,

"LIGHT, TRUTH, JUSTICE."

Mr. S. said, "Yes, we all want that." We said, "No; you may desire it, but some members and supporters of that Board do not desire it."

Messrs. Carnegie, Parker, Mills, Saunders, Hunter, and perhaps some others may desire to secure the three graces above named; but we doubt if they will have the will or power to encourage the full explosion of the bomb shell. We fear they may yet turn their feather, but as yet they show a bold front, and the explosion will not injure them, for right has nothing to fear. Now, if this Board or any members of it will use their influence to obtain and give to the farmers light, truth and justice, you may depend on the aid of this journal to support you and aid you in that which is or ought to be your duty.

Halt no longer. Let us disperse darkness. Let us have light. If you have accepted an office there is only one way in which you can fill that office honorably, and that is openly, truly and justly.

If the Board of Agriculture and Arts is to exist no other course will sustain it than to disclose, acknowledge and to rectify their past errors then and not till then will this journal be found in support of government agricultural expenditure.

The Provincial Exhibition.

At the last session of the Ontario Legislature Mr. John Dryden, M.P.P. for South Ontario, delivered the following brief and sensible speech:—

Whatever explanation may be given, it is an undeniable fact that the Agriculture and Arts Association has for a number of years been becoming exceedingly unpopular, and I do think the time has come when this Legislature ought to enquire whether the people of this Province are receiving any proper return for this large annual grant. It has been given for a long time—the institution has to some extent become a time-honored one, and there are some who think on this account it ought not to be interfered with. No one will deny its usefulness in past years, and to a certain extent its usefulness now, but it does not follow that now when our circumstances are entirely changed that the same necessity exists for this grant as when it was originally given. If we enquire why it was originally given I apprehend we shall find that when this Province was not so populous; when these were not found such means of transit from one section to another as now exist; when the people generally were not as able to take these journeys, and when sufficient interest could not be aroused in these matters, it was absolutely necessary that the funds otherwise obtainable should be supplemented in order that the prizes should be sufficient to form an attractive exhibition. But now, I submit the circumstances are entirely changed. We have in this country almost an entire network of railways. Every facility is thus afforded to reach these centres of population where exhibitions are held. An intense interest is manifested in these exhibitions, so much so that the people flock together by thousands, thus affording an income much larger than could be reached in former years. There are two classes of persons benefited by these exhibitions: one is the exhibitor himself, who is benefited not merely by the amount of prizes he may be able to obtain, but by the privilege he is thus afforded to advertise his goods by bringing them in contact with the public at large; the other class, by far the largest and for whom we are supposed more particularly to legislate, are those who attend in order to be educated or to learn that which may be of benefit in their ordinary calling, and by attending be stimulated to greater exertions towards progress in the future. Now if this grant were withdrawn altogether, would our people be deprived of this needed education or stimulus thus provided? I answer most emphatically, No. Why, sir, we have witnessed in this city an exhibition under the auspices of the Industrial and Arts association which has not only equalled but has gone far beyond in many respects any held by the Provincial association. If we compare the actual results we shall find whether in reference to the number of entries or the amount of prizes offered the comparison is rather favorable to the Toronto Industrial. In addition we have the same work being done, but perhaps not so extensively, by the cities of London, Hamilton and others, all of which are attended with success without any grant. I know that it may be objected that these are local and not Provincial in their character, but I apprehend if the facts are fully understood it will be found that the different portions of the Province are quite as well represented at some of these (so called) local exhibitions as at the Provincial itself. Besides, the Provincial is always more or less local in its character. When held in London, a large majority of the exhibits as well as the visitors come from that section of the Province, and the same thing is true when it is held at Hamilton, Toronto, or elsewhere. It is stated by some that this grant is given almost exclusively for the benefit of agriculture, and that therefore I as a representative of that class ought not to object. I can only say in reference to this that the farmers of this Province are quite as much interested as any other class in carefully guarding the finances of the country, and that they will not appreciate any grant professedly given for their benefit which is after all of no real or actual service. One thing, however, ought not to be forgotten, and that is that the holding of exhibitions is not the only work undertaken by this association. They have had under their superintendence the compilation of a Herd Book, but no harm would come if the withdrawal of this grant would necessitate some changes in this direction, for the time is at hand when the whole work should be put on an entirely different basis. It is manifestly plain that it ought not to be controlled entirely by one person, but ought to be in the

hands of practical scientific men, in whom the persons interested as well as the public at large would have entire confidence. Again, if we would keep pace with other countries in this respect, we should have commenced upon a proper basis other herd books or records than those in process of compilation. Whatever view this Legislature may take of this matter, one thing I think they ought to demand, that if this grant is to be continued the recipients should be compelled to present to this House a statement in detail of their receipts and expenditures as well as a report of the actual results of the work done, that this House and the people at large might know what is being received for the money granted. My position is just this: if this work can be and is being as well done, or even better, by an association without aid as by one which needs this large grant and even then does not prosper, then I fail to see any sound argument why it should be given. The tendency of this large annual grant has been to cause the parties receiving it to fold their arms and say, "We have plenty of money, and no exertion is needed on our part to make it successful." Now, if I am right in my conclusions, as I think I am, then in the interest of the country I think this grant should be withdrawn.

Many other members spoke to the same effect. We are creditably informed that the motion which was moved to withhold the grant would have been carried by a large majority, had not Mr. Wood used his power to induce Mr. Graham, the mover, to withdraw his motion. This journal at one time, in a crisis of danger to the Provincial, gave its aid to its support. We should regret to see the institution abolished, for it did good at one time; but in its present state, with its present management, we cannot too strongly commend a total overthrow. It is now managed principally by men who cannot, or do not, give a reason for their act. Individually they attempt to lay the management on some other parties, and yet they wink at corruption and attempt to shield each other. We regret that we should be under the necessity of aiding the overthrow of the institution; but in the interest of the farmers of Canada, we have no other course open to us, that is if we do our duty and advocate your interest fairly and truthfully. In is now an injury and an injustice to you as it now exists. Should we see a real honest desire to again make this a popular institution, which we have no doubt could be done, this journal would then lend its aid for the maintenance and support of it.

Breeding Sows

At this season of the year require especial attention. It has been found that the great majority farrow 112 days from the time of service; some few will go a few days longer and some will farrow a few days sooner, but these are exceptional cases.

A week before a sow is expected to pig put her in a comfortable pen and supply her with a moderate amount of finely cut straw; if she is given long straw, which does not become broken up before she farrows, the probabilities are she will lose more or less of her pigs by laying on them or from their becoming entangled in the straw while very young. We have found it profitable to arrange a pen specially for breeding sows. Arrange so that the bedding would be in a corner of the pen; we then take a two inch plank, 12 inches wide and from 6 to 8 feet long, and nailed it on the wall, about 8 inches from the floor, thus making a shelf projecting from the wall 12 inches; one end of this shelf will fit tightly against the wall, which runs at right angles with the one on which the plank is nailed; this plank must be securely fastened to the wall, and made firm by nailing blocks under each end. All these preparations should be made before the sow is put in the pen. The object of the shelf is to form a protection for the pigs, which will prevent the sow from stepping or laying on

them, which so frequently occurs when heavy sows farrow in inclosures. For ten days before farrowing and as long after, a sow should have sloppy food, which should be nutritious but not heating. At this time of the year feed boiled roots, with a little bran or shorts. Ten days after farrowing danger from inflammation is past, and the quality of the feed may be improved; but should never be of a very heating nature. Raw grains or meal should not be fed to a sow while carrying or suckling offspring. Boiled grain and roots should be given in such quantities as to produce rapid growth in her offspring, and at the same time, if possible, keep the dam in good condition. Charcoal and wood ashes should be given all pigs which are kept in an enclosure at least once a week.

PRIZE ESSAY.

REPLY TO QUESTIONS ON GROUND BONES AND SUPERPHOSPHATES.

Any one who has travelled through the various parts of Canada (being interested in agriculture) cannot but notice the variety of soil which covers the surface of this part of America.

And as to what soils have ground bones and superphosphates been found most profitable, depends very much upon the state of these manures when applied to the land, whether as raw bones, fermented bones or superphosphate. Also a great deal depends upon condition of soil, kind of soil, kind of crop you wish to grow, and whether you wish to apply manure to act upon and improve land for one year or a number of years.

By dividing our soils, and calling them clay loam, sandy loam, and clay soil, we may arrive at some definite idea. To make permanent pasture or meadow from clay loam, which has been in some measure exhausted, for want of plant food being returned to the soil, we cannot invigorate that soil more, or encourage the small rootlets of the various grass seeds better, than by applying ground bone in a state of fermentation. This fermented bone will supply phosphoric acid to the growing wheat crop and other matter which the crop demands; encourage growth of grass year after year as it continues to be made soluble, and makes other matter existing in the soil useful to plant life, by intermixing and decaying with it.

To grow roots upon this soil, it is preferable to use bone superphosphate, as this manure (through the action of sulphuric acid on the bone) forms food ready for the use of growing root crops. Apply this manure either with farm-yard manure or other artificial fertilizers such as the root crop demands, in excess of what is found in most soils of like nature; for instance mangolds and turnips—both contain a large quantity of salt.

Salt is therefore required to satisfy the demand made upon the soil to keep up healthy and luxuriant growth of these crops. It is not preferable to treat a sandy loam in exactly the same manner; on many sandy soils, especially light sandy soil, there is great loss caused by the use of mono-calcic phosphates, it being washed out of the soil by rain water passing through it. The consequence is that the growing roots are not allowed the privilege of using the food prepared for the use of plant life (especially in this over-manufactured manure when applied to the land), hence the failure of root crop on this soil. To grow root crops on this soil, I would prefer fermented bone, two thirds superphosphate, one third mixed.

To make permanent pasture or meadow on this soil, sow half inch bones, two thirds superphosphate, one third mixed, to invigorate grain crop and rootlets of young grass in early summer, after which decomposition will have set in with the bone

upon this class of soil, and will contain food enough to sustain the crop in healthy growth and perfect it in season. This manure will continue to furnish phosphate of lime to the following clover and grass for some years, and as a natural consequence leave the herbage on the land in a healthy state (a kind of herbage which will be very much coveted in Canada, if stock rearing, meat making and dairy produce continue to be followed by the Canadian farmer.)

I have tried to show from my experience how ground bone and superphosphate can be used for permanent pasture, and root crops in particular, thinking these two branches of agriculture neglected in Canada.

Clay soil.—I would not recommend bone and superphosphate for this class of soil. I think lime in a caustic state better adapted to act upon and form mild and gentle ingredients fitted for plant life (peculiar to this class of soil.)

What quantity of this manure should be used per acre? I would apply from four to six hundred, according to soil, kind of crop, and the end aimed at by the agriculturist. And, as to the best methods of applying these manures, I have seen nothing better than the hand of the husbandman. There are machines or drills which answer very well, only I find that by walking the length of almost any field, there are portions or barren hills which require more manure than the remainder, and can be regulated better by the hand of the husbandman than in any other way.

Will the use of these manures be profitable to Canadian farmers? This is a question which troubles very many agriculturists to answer at the present time; yet I conclude it would be profitable if we Canadian farmers would change our system of farming, and apply this manure with judgment, since it is reasonable to believe that it is of no practical advantage to a growing crop if the soil should contain food, and still be unable to yield it to the plant (as the only ingredients used are those ready for use, and coming into use.) And it is also reasonable that if manure be applied to land containing matter in which the soil is deficient, it must bring round a state of affairs more healthy for plant growth.

I believe we are selling away year after year the bone and sinew of our land, by exporting large quantities of wheat, and slaughtering two thirds of our ill bred and ill fed cattle, in condition only to live and not to die, and if this demand is continued without some return being made to the soil it will become exhausted, and exhaustion arising from deficiency of plant food is I believe the cause of very many failures in our farm crops these late years throughout Ontario. I also hold the same circumstances which make land more healthy for plant growth, make it more healthy and profitable for animal life.

But you may ask, what about Canadians changing their system of farming to make the use of these manures profitable? I maintain that nearly one half of us keep too many third and fourth class horses, which, to do them justice, consume their value in food every year they live, and yet are no practical advantage to the farmer. If he would but arrange his farm to meet the times in which he lives, by making one third of his farm rich in food for grass, plough one half the quantity of land he is doing, and by using these manures with judgment it will produce as much grain and other crops as double the quantity does under present custom. Also cultivate root crops for stock, and thereby divide the labour of his farm to be done in courses, and not in a few weeks. He thereby saves cost of keeping one third his horses which make no return, also saves wages of men to follow them, and in place of these he can maintain double the number of cattle and sheep (if thoroughbreds); they make their return for improving other stocks. If grade cattle and sheep, their return will come from beef, milk, butter, cheese, or mutton and wool. By following this system of giving more attention to stock, especially in winter months, they continue to improve in size and constitution, and commence summer in much better plight or condition;

thereby a farmer can have stock of every kind ready to meet the increasing demand both here and among the teeming population in Britain.

By this course the farmer will pocket dollars, where under the present custom he pockets cents.

J. F., Milton P. O., Halton Co., Ont.

Veterinary.

A Swindler Among the Farmers.

We have recently received letters and visits from farmers in this county, all of which declare they have been swindled by a clever-appearing American, who pretended he had discovered and was practising a new and successful method of castrating and spaying animals. His methods, as described to us by our informants, are as follows:—In the case of male animals he did not throw them, but with a small lance made a slight incision between the thighs, about four inches below the anus. This, he said, divided the leader or some other imaginary member, and as a result of this operation the testicles will waste away in a short time. This ridiculous theory our hero persuaded the farmers to believe, and succeeded in doing considerable business for some time, besides earning additional money as an instructor, allowing persons to travel with him and learn his methods, receiving certain fees for such. Any one who has the slightest knowledge of anatomy knows well there is nothing which could be cut in these parts which would prevent the power of procreation, or produce any of the effects claimed. Vance, for such is the name of the operator, treated females in a very similar manner, inserting a knife about an inch below the valva, cutting somewhat deeper than in the case of the male animals. This, he said, severed a certain imaginary feeder, and would prevent the animal coming in season. The operation performed could not possibly produce this result; the whole affair is a very clumsy swindle and could not be carried out only among those farmers who have neglected to study the anatomy of their animals. None who own a beast ought to be ignorant of this study, and we would advise all our readers to buy a standard work on veterinary and consult it. Three-fourths of the swindles which are practiced on the agriculturists could not be carried out if farmers would keep themselves posted on all matters pertaining to their business. Not only would they prevent themselves from being swindled, but would prevent many losses which are now sustained. Our advice to all would be, when you have any operation to perform which you cannot do yourself, call in a fully qualified veterinary surgeon, and have nothing to do with travellers who have just made some wonderful discovery.

A new disease, similar to diphtheria in human beings, has appeared among the cattle in Boone township, Wright county, Iowa. Charles Brown has lost thirteen head from the disease, which baffles every kind of treatment.

A Mr. Hanford, of Indiana, thinks he protects his orchard from the ravages of the codling moth by sowing lime upon the branches of the trees while they are in blossom.

Insects, caterpillars, and larva are not destroyed by heavy frosts or intense cold. Common caterpillars are uninjured by cold of 11° below zero, and, after being frozen hard, are nevertheless revived by return of heat; hence the gardener must not depend upon this source of assistance in ridding himself of these pests.

Plants grown in the house are best kept in good shape by pinching the end buds of those shoots that grow too vigorously. This is much better than allowing a few shoots to grow until they need support and cutting them back. In taking up plants from the garden it is best to cut back at least one-half, and after putting in good soil, water at once and put in a cool, shady place.

Garden and Orchard.

Our Forest Trees.

The Elm (*Ulmus*)—With its varieties, Native and Foreign.

BY HORTUS.

In commencing this series of notes concerning our forest trees, the writer begs leave to say that he begins the task with pleasure, believing that the time has come when more attention should be directed to the value of replanting young forest trees for ornament, shelter and timber.

With the rapid diminution of our woods arises the broad question, what must be done to take their place, in the measure of keeping up the supply of wood for fuel and manufacturing? This is of great importance to the farmer and mechanic. Of course there is only one practical solution to this problem, outside of wise and prudential measures being adopted by the government to husband the timber yet standing on our wild lands; our solution is to replant with young trees; then comes what to plant, how to out, and where to plant? These several questions we propose to answer in their turn, beginning with

WHAT TO PLANT, with a short description of the species and their several varieties. Without singling any particular tree as being the most useful to the country, we commence with the elm as being one of the foremost trees to plant for use and ornament. How barren would our cultivated landscapes appear if they were not graced by the beautiful and majestic forms of the elm. As the palm tree to Oriental scenes, so stands the elm to our Canadian landscape. Fortunately it is one of our commonest trees and is to be met with in all parts of the country, particularly in the fertile valleys of our great rivers and in the rich bottoms throughout our country. Springing up, as it does, to from seventy to eighty feet, towering head and shoulders, as it were, over its fellows, with a fine wide spreading head and graceful bending branches from a common centre, it is an object of beauty worthy our best regards. Were we confined to one tree alone to plant on our streets and parks, we would at once select the elm.

In Great Britain and Europe generally it is greatly esteemed for a shade tree, and in the wine producing districts they use it for training the vine from one to another, making a continuous arbor. Ancient writers mention many interesting items concerning the elm. They state the leaves were much used as fodder for cattle, and the timber in early use for boat building.

Virgil relates how young elms were bent down while in a growing state, and kept in a curved position until they had acquired the necessary shape in order to be converted into plough handles. There are a great many varieties of the elm—some nurserymen having over thirty varieties in their collections.

These differ but slightly from each other, principally in formation of foliage; but all elms agree in the following characters: they are lofty trees, having a straight, columnar trunk,

with hard wood, rugged bark and slightly wavy, graceful branches, which when young are either downy or corky. These it is not necessary to mention, and we will leave it for the reader, who if he desires information on these points, is referred to the many excellent botanical works now extant, or to some of our leading nurserymen, who pay particular attention to ornamental trees. We confine ourselves to a description of the leading varieties or species and those sub-varieties possessing marked interest and characteristics.

ing over the main part of North America. The blossoms, of a dull purple, appear early in spring, borne in bunches on short foot-stalks at the ends of the branches, as in fig. 1; they are followed by the seeds, also in clusters, as in fig. 2. These ripen early in June, and are contained in a thin membrane vessel, which may often be observed by people at this time of the year fluttering to the ground in showers, or carried away by the sportive wind. They should now be gathered and sown—but of this we will speak further.

Another native variety is the Red, or Slippery Elm (*U. Fulva*.) This kind does not grow nearly so tall; the bark abounds in mucilage and is much used for medicinal purposes. This quality attracts the boys, who destroy hundreds of trees by tearing off the bark for chewing.

The English (*Ulmus Compestris*) is the most commonly distributed species of all grown in Great Britain and southern Europe; the leaves are smaller than the others and rough to the touch. The tree attains a lofty height, forming a dense head, and is a very desirable variety in all plantations, though not so hardy as the other elms. Of easy cultivation, it grows rapidly; the timber is more valuable than our native elm, though the tree is not so beautiful. There are more sub-varieties belonging to this species than any other; amongst which, the most curious is the cork-barked elm (*U. Sibirica*), a branch of which is shown in fig. 3. The leaves are large; the tree forming a massive head of dense green, while the branches are thickly covered with a cracked corky excretion, from which the tree derives its name.

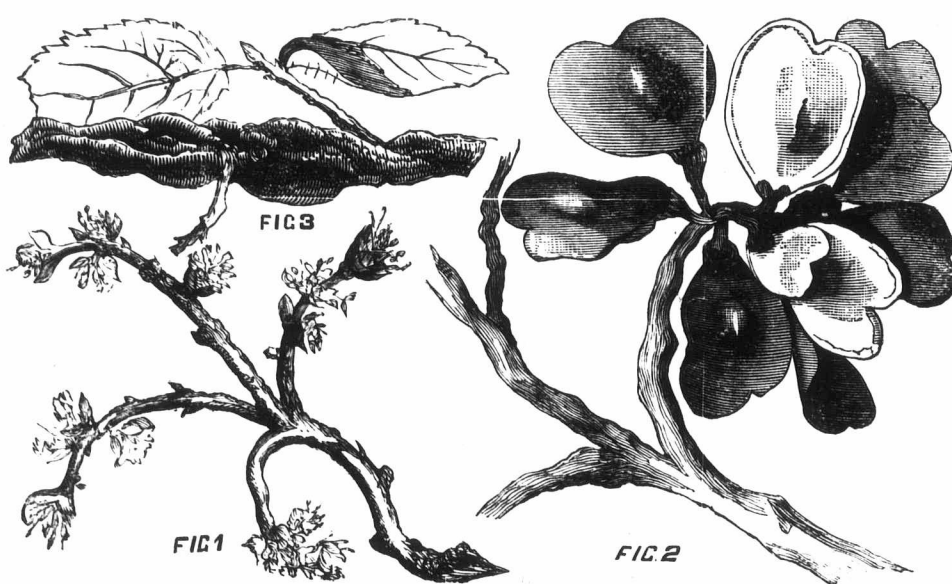
The Scotch, or Wych Elm (*U. Montana*), has been introduced and planted very extensively throughout Canada. This tree is a very free grower and very valuable to plant for timber purposes. It soon attains a large size. Many trees in the vicinity of the writer, planted twenty-five years ago, would now yield several cords of good wood, were they cut down. The tree, when fully grown, presents a good appearance, and is admirably adapted for planting singly or in groups in avenues and parks. In many respects, it resembles our native sort, but of smoother bark. There are numerous sub-varieties grown in collections; the most singular, the weeping kind (*U. M. Pendula*), the branches of which droop to the ground. It is eminently suited for planting on lawns or for cemetery decoration.

GROWING FROM SEEDS.—All kinds grow easily from seed, and those ripening in early summer can generally be got in large quantities from neighboring trees. They should be gathered just when commencing to fall; prepare the seed-bed in a nice, clean, well-prepared loamy piece of soil, enjoying a little shade; draw the drills the width of the hoe two feet apart and about two inches deep; in these sow the seed thinly but evenly; cover well and tramp firmly, using the feet. If the weather has been dry, give the bed, after sowing, a good watering; do this in the evening. The seeds will soon start, and if kept clean of weeds by an occasional hoeing, will make from six to eighteen inches of growth before fall. They may be allowed to stand two seasons, when they should be taken up, either in the fall or succeeding spring. They should now be assorted into two sizes—

the strong and the weak; trim the roots off evenly with a sharp knife, leaving about six inches long; plant in rows a foot apart and rows four feet apart, so as to allow use of cultivator. The following spring those showing a tendency to grow upright should be left alone, but those growing crooked



THE ELM TREE.



The three principal kinds are the native, or American, the English and the Scotch. The American, or white elm (*U. Americana*), is the drooping tree of our fields and forest, and without doubt is the handsomest of all the elms. It is the best known and most widely distributed, stretch-

can be straightened by being pushed over with the foot, or by cutting close to the ground, to allow of a new growth.

The elm possesses a faculty for thriving in all kinds of soils, though all thrive in soils more moist than dry. Their roots being very fibrous, the trees bear transplanting easy, and grow with but little after care. Seedlings may be gathered from the woods and treated as advised above. Even very large trees can be removed from the woods and planted permanently. They soon become objects of beauty, if a little unsightly on first transplanting.

All persons who have an orchard should go over it carefully now, cutting all twigs off which have the eggs of the tent-caterpillars deposited on them. They can now be detected by careful observation, and for the benefit of those who do not know them we will give a slight description of them. They are of a dark grey color, almost brown, resembling the bark of the tree, and form a ring, generally about half an inch long, which completely circles the twig on which they are deposited, and as the warm weather approaches this grows somewhat larger. All old trees which have loose bark would be benefited by scraping the body and large limbs with a hoe, being careful not to injure the lower bark; after which they should be washed with lye or diluted soft soap. Young trees which have smooth bark do not need scraping, but the washing would do them good. If you desire heavy crops of fruit you must keep the land rich on which the trees are planted. They produce better and are less liable to disease.

Cleansing Trees with Soap.

A writer in the Country Gentleman, referring to a very successful instance of cleansing trees with soap, tells his own experience of such application to his own trees and his way of accounting for it, as follows:

My own experience is of four years' duration, with an orchard of seventy-five trees. They are fifteen years old, and average about fifteen feet high, and six inches through the body. I can safely say that they have a more healthy appearance than they had before the soap was applied (they have been scraped with each soaping,) and they have passed through two of the most severe winters without the slightest perceptible injury. All the fruit they have borne has been the finest of its kind. For the past two years the Harrison apple trees have not borne so much as they did before, owing I think to the extreme rapidity of their growth, but they will be all the better for it afterward. By examination, I find the bark on some of the fifteen-year-old trees is nearly as smooth and thin as on the five-year-olds—all having been cleaned every summer for three years. Has it ever been clearly shown that young trees receive nourishment through the bark?

But this is not a single instance, and might admit of a different interpretation. If it has been unmistakably proved that young trees receive fertilizing matters through the bark, then, I ask, would not the trees continue to do this farther into old age, by keeping the bark clean and thin, instead of neglecting the bark until it becomes thick and protects the trees when they need no protection? The only time that trees ever need protection from winter, in this climate, is during the first few years of their growth, and the bark of a young tree is always thin. How absurd, then, to leave the old rubbish on the older trees for protection, when it only accumulates after the tree is out of danger! Last year I noted the time it took to soap my trees. A man and boy went over the orchard between one o'clock and five in the afternoon—say seven and one-half hours for one man to do seventy-five trees, or one hour to do ten trees. Counting ten cents an hour as the wages of a man, we have one cent a tree as the cost of the labor. On the seventy-five trees there was applied about three gallons of strong soft soap, or about the third of a pint to the tree, mixed with an equal quantity of water. Call it half a pint to the tree, and put it at two cents, and we have three cents a year as the entire cost of soaping a good large apple tree. If the soap is put on regularly, the

trees need not be scraped oftener than once in two years. All who own apple trees may not be experts at making soap, or may not have a sufficient quantity ready made. In either case I would neither make it nor buy it, but use the ordinary potash lye from wood ashes. Dilute it to the proper strength with water. Lye that will just not take the skin off the hand is not too strong for trees.

Geraniums for Winter Plants.

Under geraniums are commonly classed the Zonale pelargoniums, which are not strictly geraniums. In the room culture of plants, and especially geraniums, we want blossoms, and well-foliaged plants. I have found the following as good a way as any to obtain them. Not all varieties are good, but some are better than others as winter bloomers in the house. Plants lifted from the garden, which have grown to considerable size, will disappoint you by taking a long time to recover from the effects of lifting, if they recover at all. It is better to start young plants, commencing early in the spring, some in March, others in April, up to June, and then we will have blossoms in November, and during the winter till time to turn them out into the garden. Propagate in pots, commencing with the smallest size; shift occasionally, but always use the next size, never making large shifts. This course may make a little trouble from drying out where there is no greenhouse for the earlier starting, but a box to set the small pots into, with moss to pack around the pots, will save much anxiety on this score, if the moss is kept damp. The effect of the foregoing treatment is to obtain stocky plants, and prevent premature blooming. Good water-blooming zonales can only be obtained in this way. Make the last shift in August for the largest-size plants, the others in the following months. Scarlets require larger pots than other colors. Pinks, salmons and whites, as well as the painted sorts, thrive better in somewhat contracted space. Pinch off flower buds till the pots are taken in the winter.

MANURE FOR PEAR TREES.—P. Barry stated in his address at the Pomological meeting at Rochester, that he had in the corner of his grounds a little group of half a dozen pear trees standing in grass; they had been neglected until they were nearly starved to death. The annual growth was nothing, the leaves small and no fruit. In this condition they were treated with a top-dressing of barn yard manure, and the following season they made stout shoots twelve to eighteen inches long, with large, dark green foliage, and some fine fruit. He added that trees standing in grass would not pay. They must be kept vigorous and healthy by tillage, fertilizers and judicious pruning. These involve labor and expense, but he remarked he cannot grow fruit without them. In his pear garden he slackened both cultivation and manure to lessen the chances of blight, but the result was that in two years and-a-half his crop was culls.

It is stated in Green's Fruit Grower that the white grub will not attack the roots of a strawberry plant if half an ounce of sulphur is put under it when set out. As this destructive and unsubduable pest has evidently a rather nice taste—preferring even some varieties of strawberries to others, pear roots to apple, and apple to stone-fruits—it is possible that the sulphur may disgust it. The decline of well fed plants is often a mystery which would be solved at once if these gnawers of the roots could be seen at their destructive work, and the discovery of some practicable means of getting rid of them would be a great boon, especially to cultivators of light rich soil.

A careful estimate was made by the Agricultural Department at Washington some years ago, and it was found that the annual cost of the fences of the country was greater than that of all buildings together. In the Nova Scotia House of Assembly it was stated that the cost of fencing a farm and keeping the fences in repair for forty years was equal to the value of the estate. The question, as to the advisability of building permanent fences, is being discussed in the various Provinces of the Dominion. Farmers should enquire into the subject closely.

VITALITY OF FLOWER SEEDS.—Some flower seeds will germinate when more than one year old. Asters, stocks and some other sorts are worthless the second season. Of a large number of varieties a portion will germinate the second year, but not a very high percentage, such as phlox, verbena and many others. Seeds saved in a favorable season and properly dried, will, of course, remain good longer than those saved in an unfavorable year, or carelessly cured. As a rule, round seeds are good longer than thin, flat ones, and many of the smallest are good as long as any. Old balsam seeds are generally acknowledged to be better than new. Last summer, in the garden of a German lady, I saw some flowers from seeds brought from the old country sixteen years before. She had petunias, portulaca and gourds.

An exchange says:—"According to a thoroughly experienced grower hollowness in celery is no way a consequence of culture, but constitutional in the variety. The only remedy or resource is to change the sort. The white kinds generally come in earlier than the reds, but a good solid red is most to be depended upon. The dwarfed sorts yield more stem to less leaf than the long leafed sorts, and are more manageable, though making less show. Celery is a crop which, it is said, nobody has ever raised more than was wanted, if grown at all well. But it costs more than other crops.

A correspondent of the N. Y. Tribune says:—"I should like to tell my fellow-readers of an experiment which I have tried. It is a protection against trunk-boring and root-sucking insects affected by simply making a little gutter round the collar of the tree and pouring from a gill to a pint or more of gas-tar into it. No ill effects have followed in any known case through several years' use in several distinct places; even when applied, as it usually has been, in the warm, growing summer time, before insects deposit their eggs. On the contrary, a deeper green and greater vigor have followed the application, showing that it probably bars off the germs of even more minute and insidious devastators than the visible insects.

The following is from a writer in the London Garden: "In Covent Garden I heard a very good account of Canadian apples, and was surprised to learn they were beating the American produce out of the field. There seems some reason for this, as the Canadian apples are better packed; the American barrels are usually "topped up," in market parlance—a layer or two of good fruit at the top, and then fruit of poor quality below. On the other hand, the Canadian fruit is generally fairly good throughout, the barrels are well packed, and considerably larger than those of the Americans. A very excellent apple which has been coming in large quantities is the Golden Russet; it has a high and rich flavor. In some sales lately, Canadians, when compared with Americans, were in the proportions of over six to one. This must be very encouraging to the Canadians, and should teach the Americans to pack honestly if they wish to keep their trade."

An additional inducement to see that trees are maintained in free-growing health exists in the fact, brought prominently forward at a Massachusetts farmer's meeting, that the fruit from diseased trees will not keep. To which might be added that so long as it does keep it is inferior in flavor and juiciness. Unfortunately, a tree is like a pig in one respect—it is very difficult to cure when once sickened. The most frequent cause of disease is the disruptive effect of untimely or violent frost. This is remediable only in one way, and that is the preventive course of only planting varieties with constitutions capable of withstanding even so severe a winter as the present. Much may be done, however, with less ironclad sorts, by care to avoid any check of growth during the proper growing season; by encouraging early and even growth so that it may be completed before autumnal frosts, and by taking measures to keep the roots from being gorged with wet while the trees are leafless and the tops from being so parched and shrivelled by winter winds as to be incapable of freely conveying supplies when they are wanted.

A mixture of bone dust and ashes is said to be the best fertilizer for strawberries.

Climbing Plants.

If there be any kind of plants that fixes the attention of the lovers of the ornamental in nature above all others, it is climbing plants; whether they luxuriate in the dense forests of Brazil, or the lordly demesnes and cottage homes of England, or the primeval woods of this Canada of ours. They are beautiful in their native wildness, as they climb to the topmost bough of the lofty elm or the Canadian maple, and still more beautiful when covering an arbour or trellis, or when their tendrils cling to the pretty cottage. We seem not to appreciate the beauties of our native plants, especially our shrubs and climbers. We have not, it is true, the English mistletoe, honey suckle or ivy; but we have many native climbers easily grown and very graceful, which have the additional value of being hardy and thriving well in our climate.

THE WISTARIA,

Of which we here present a wood-cut, is a beautiful climber. It is little known here, though a native of America, and is classed among hardy plants. It is found growing wild from West Virginia southward, on alluvial soils, climbing high upon trees; and we have no doubt it would do well in Canada, if planted in a bed of vegetable mould in a sheltered situation, and it would add an additional item of beauty to our homes. Its pinnate leaves have each from nine to fifteen leaflets of a somewhat oval shape. The flowers appear in May and June at the ends of the young shoots. They are usually of a delicate lilac-purple color, with a slight fragrance. There is a variety of which the blossoms are pure white. The flowers are pear-shaped. They are in dense hanging racemes at least 6 inches in length. There is also a variety of this climber that has been introduced into England from China. It grows more rapidly and blooms earlier than the American. The Wistaria is now largely planted in New York and other American cities. It is sometimes grown as a shrub by training the stem to stakes and pinching the growing shoots. We have seen it growing nicely in this city.

Among our other native climbers are the Bitter Sweet, Virginia Creeper (which, with the Clematis, we have described to you in former numbers of this journal), American Woodbine, climbing Roses, and the wild Grapevine.

THE BITTER SWEET

Is one of our most graceful climbers. In winter it is in its greatest beauty, as it twines around the stem of some old tree, covered with its bright red berries. Its glossy leaves are a sufficient inducement for transplanting it to our gardens. It has been known to grow twenty feet high. Its berries are sought for at Christmas tide to deck our dwellings and churches.

Of climbing roses there are many varieties. One or more should be trained to every house. The native grapes are especially adapted to grow on fences or trellises. In all instances they need priming to keep them in form.

Any of the climbing plants may be grown somewhat as shrubs, by supporting them with stakes and pinching back the young growth. By this method we have seen beautiful pillars produced, which are very ornamental in lawns. The expense of transplanting and cultivating any of the above plants is very small, and will add much to the beauty, and not a little to the value of a homestead.

Window Gardens.

A plain lesson, easy to be put in practice, on the planning and care of windows is that given in the Family Herald:—

A large box is preferable to separate pots, as by it space is economized. It may be a simple wooden box of the shape desired, or more elaborate or expensive, and made of pottery-ware, or lined with zinc, as the taste and means dictate. A box the length of the window-sill, or two made to fit the sill for convenience of handling, may be covered inside with pitch, or they may be used plain. The outside may be ornamented with coarse bark or simply painted. The earth should be light and porous and with coarse gravel or char-

the dust from the leaves, and the great clusters of fragrant bloom of a pure waxen white, are of rare beauty, remaining perfect for weeks. The buds usually set the season before blooming, and if the flower is not cut will bloom year after year from the same flower stock. It is a rapid grower, but does not require a very rich soil. In the same pot can be placed any drooping vine, the numerous family of sedums, and moneywort.

Hardy Bulbs for the Garden.

Bulbs will do well planted upon almost every kind of soil, if it only be made rich, adapting the kind of manure to the particular kind of soil, the same as for any other crop. No one kind of manure is essential in the culture of bulbs; only apply such as proves best for that soil. The common culture given to other crops will insure success with bulbous flowering plants. Our earliest spring flowers come from hardy bulbous plants like the Crocus, Snowdrop, Crown Imperial, Hyacinth, Narcissus, Tulip, &c. Recently the vacancy of bulb bloom in summer and fall has been filled by the Japan lilies, Gladiolus, Iris and Tigridia, these, with the former, giving us an unbroken chain of blossoms from earlier spring till fall frosts.

A great wonder and glory among bulbous flowers is the great golden lily, *Lilium auratum*. The other more common varieties of Japan lilies are also wonders of beauty, when well grown, and are hardy, enduring severe winter weather, but all the better if covered a few inches deep with manure. Ornithogalum and Ranunculus, of numerous species, are sweetly perfumed and beautiful. Tuberoses are more difficult for the general culturist to grow, so as to give fine bloom, or even any blossoms. The bulbs of Gladiolus, Iris, Tigridia and Tuberoses must be planted in spring and dug up in fall, and kept through the winter in a mild and dry temperature. I put the bulbs into paper bags and store in a closet opening out of the living room, where the fire is not allowed to go out from early winter to spring. These bulbs produce more and better blossoms from being kept out of a cold temperature at all times.

All the hardy bulbs are planted in the fall, October being generally chosen, as the soil then, and for the following month or two, is warmer under the surface than the open air; numerous fibrous roots are thrown out or made before the ground freezes. Hence they grow stronger, and bloom more profusely in their season. A light sprinkling of salt over the surface, after planting, induces greater thrift of plant and beauty of bloom, and just before winter sets in cover well with coarse manure, which can be removed in spring.

TESTING SEEDS.—We have noticed on former occasions the very useful experiments of Prof. Beal of the Michigan Agricultural College, in testing various garden and farm seeds, and thus determining beforehand their germinating quality. The disappointment and positive loss in planting bad seeds and losing a crop for a whole season, greatly exceeds the labor of testing. A counted number may be placed in pots properly filled with fine mellow earth; or they may be put between several folds of spongy brown paper. In either case put them in a warm place and keep damp by daily sprinkling. Good seeds will not be many days in showing their true quality. A writer in the Practical Farmer says he tests his seeds with little trouble in large pots in a small greenhouse, and has thus tested in the past two months upwards of 800 samples of vegetable seeds, and he wonders why farmers omit so easy an experiment on their farm seeds.

Be sure to give the cut portion of large wounds on trees a coating of shellac dissolved in alcohol, or when very large, wrap up in moist clay and cow manure.

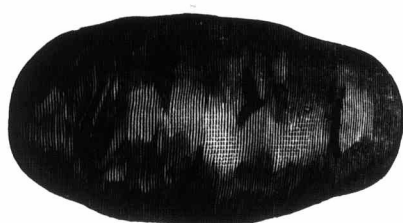


coal in the bottom. The addition of simple trellises or uprights with cross-pieces and the training of vines among them gives a pleasant variety, and affords opportunity for the exercise of taste. If a couple of wires or willow strands or ratans are bent over from one end of the box to the other and slats fastened across them, a couple of wax plants may be planted and will grow over the arch, making a complete mass of waxen beauty. The leaves, like the English ivy, are strong and firm, never falling off unless through some accident, and as they will bear almost any neglect they seldom lose a leaf. A soft sponge will clean

Agriculture.

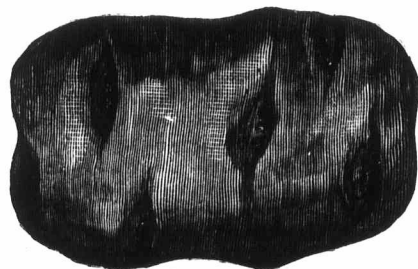
Potatoes.

In our last issue we gave you our opinion in regard to different varieties of spring wheat best adapted for you to sow this season. In this issue we purpose giving you our views regarding the potato. Some able writers on this tuber assert,



BURBANK.

and we are inclined to credit the statement, that potatoes do not continue to produce fruit of as good quality when raised for a long series of years from the tubers without having the seed renewed from seed balls. A change from different climates and different soils tends to lengthen the period of the variety's perfection. The varieties that have been favorites and are now extinct since our observation are numerous. The ash-leaf, the peach-blow and the pink-eye are a few of the number we might mention; but every farmer of forty years of age ought to be ashamed of his name as a farmer if he cannot relate to his children the position the above named varieties took on his table and in the market. It would be well if every farmer would, as he should do, impart to his children the history of every kind of grain, root, fruit and animal that he owns. We regret to say that there are too many wooden-headed farmers who imagine they know all that is to be learned in their calling and require no more knowledge; but we are pleased to record that we have found an army amounting to between 10,000 and 20,000 who desire all the light they can obtain in regard to their calling. But what is 15,000 out of a population of between four



PINKEYE.

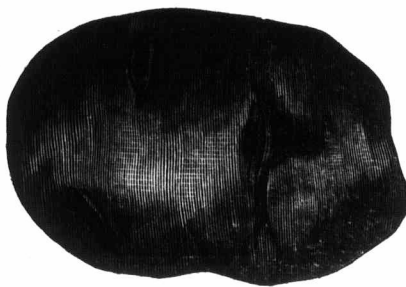
and five million?

EARLY ROSE.

Complaints came to our office last year that the Early Rose were running out, that the quality was not equal to those formerly grown, and that they do not yield as well, and are becoming damp and even waxy.

These complaints have been greatly increased

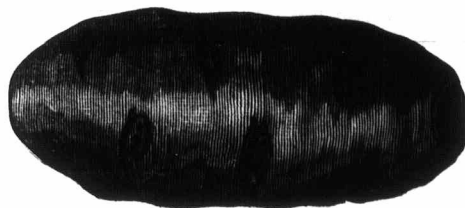
the present season, and we have devoted considerable time and money in travelling and writing to ascertain if any new or improved variety existed that we could again safely recommend to you. We imported from England the best we could hear of, the red-skinned flowerball. Instead of proving an acquisition, it produced with us a bad, waxy



BEAUTY OF HEBRON.

potato, much inferior to many of our own varieties. The early Goodrich grew well and answered well for about three years. We were delighted with it. At first the potatoes were all in a lump, and most of them good, dry and smooth. But how soon they degenerated! The Bresses' Prolific and Peerless appear not to take the place of the

coarse, and very inferior. Those in Missouri and Arkansas were miserably small and bad at that—so bad that the yam and sweet potato were generally preferred. If we should be allowed to judge the comparative value to the epicure between New Brunswick potatoes and those of Ontario, we should say one bushel of New Brunswick potatoes were worth two bushels of Ontario potatoes, and



ST. PATRICK.

that two bushels of Ontario potatoes were worth four bushels of Manitoba potatoes, but if converted into starch we could not compare their qualities. This would be for the chemists to decide. In Ontario we found a man that has produced a small stock of pink eyes. These pink eyes were raised from the seed ball of the early rose. They are not quite as long as the old pink eyes. The color of the potato is white, except the eyes, which are pink. Something like the old pink eye, the potato is rather undersized, but from the reports we have in regard to the quality, they are the best and mealiest potatoes we have heard of in Ontario.

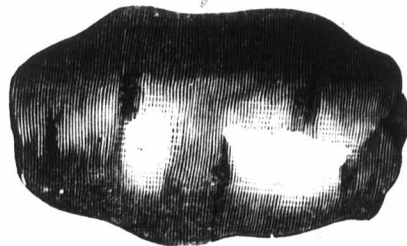
BURBANK'S SEEDLING POTATO.

This variety, like the Early Ohio, is a seedling of the Early Rose. Unlike its parent, it is white-skinned; in form it is unexcelled, the proportions being all that can be desired, and is never hollow-hearted. It has the good characteristics of yielding few small

potatoes, it has but few eyes, which are sunk little below the surface. In quality it is fine grained, of excellent flavor, either boiled or baked, is dry and floury, and ranks between the very early and very late varieties. We should say from general reports that this would be a splendid sort for marketing. It is an excellent yielder.

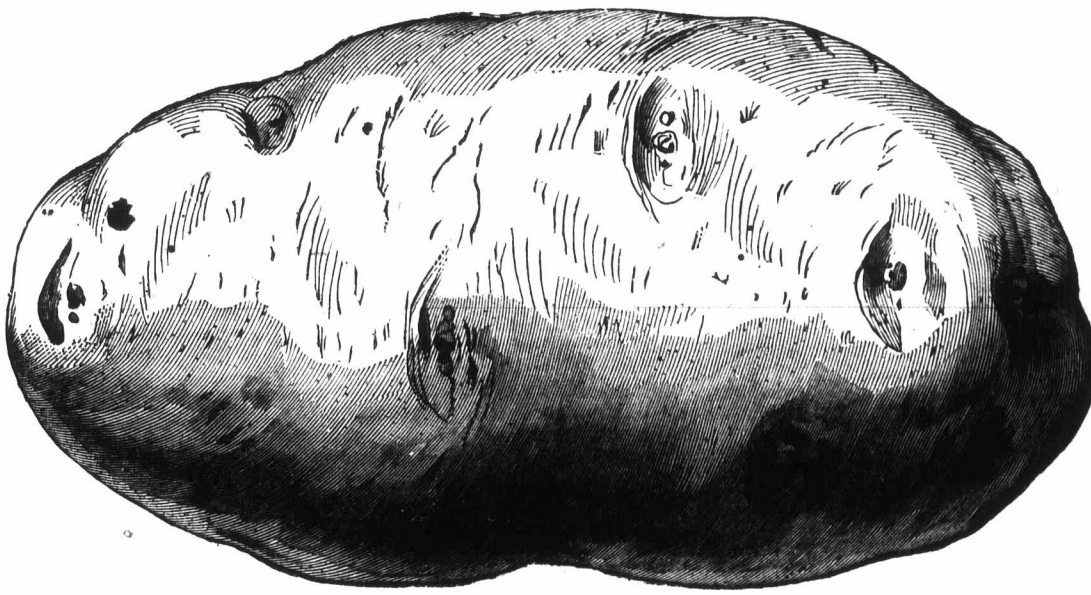
BEAUTY OF HEBRON.

The introducers of this variety, after having



EARLY OHIO.

brought it before the public last year, state that it is the earliest, most productive, and best potato yet introduced. From the reports of Canadian and American seedsmen, as well as that from the United States Government Agricultural Commission, we believe this variety is well deserving a trial by farmers. See report of it in last month's issue, page 51 (American letter).



SUSY POTATO—Natural Size.

Rose. Too many varieties have been, are, and always will be introduced, that are mere frauds on the public.

Last summer, when in New Brunswick, we ate some potatoes that were far superior to any we had partaken of for years. They were, in our judgment, finer than any potatoes we had ever before tasted in Canada or the States, and we believe we have partaken of every known variety that is grown in North America. These potatoes were called the Suse or New Brunswick King. We procured some of them to try how they would answer with us. We intend to plant some, and shall, we hope, be able to report correctly about them. We must add to this that all the potatoes we ate in New Brunswick we thought far superior to any we have had in Ontario for many years. We believe the soil and climate of New Brunswick, and of the Maritime Provinces in general, are better adapted to the growth of really fine potatoes than Canada or any of the adjoining States. We believe the Americans are aware of this, and that potatoes raised in our maritime provinces will bring a higher price in the American market than any raised in the northern, western or southern states. Those we saw when up in Minnesota or Manitoba were large,

ST. PATRICK POTATO.

A leading American seed house gives the following description of this new potato. It is a descendant of the Garnet Chili and Early Rose. In appearance it is one of the handsomest potatoes grown. It has a smooth, white skin, white flesh, with few and shallow eyes. In shape it is rather oblong than round, and has no core or hollow; it is a strong, hardy grower. It is said to produce but few small tubers, ripens middling early, and is enormously productive and of fine quality.

BLISS' TRIUMPH.

B. K. Bliss & Sons, in offering this potato to the public, say:—This variety is the most attractive in appearance of any sort yet offered, being very productive, and coming in about a week earlier than the Rose. In color and form it resembles the Garnet Chili. Tubers of medium size, round and uniform in shape; eyes slightly depressed; color of a bright red, of fine grain and good flavor.

PRIDE OF AMERICA.

This new variety was just introduced by Mr. E. S. Brownell, the celebrated Hybridian of North Vermont, U. S., to whom we are already indebted for a number of well known and valuable varieties. He says, in appearance this potato closely resembles the Snowflake. It ripens a few days later, and is well adapted for a great variety of soils, being very productive, of a large size, and an excellent keeper, retaining its good quality throughout the entire season.

EARLY OHIO

is one of the numerous seedlings of the Early Rose. While in color like the Rose, is in shape distinct, being almost round, and is said by persons who have grown them side by side with the Rose, to be a week earlier, while the yield was a third greater. We have tested this variety and think it one of the best potatoes in cultivation.

CLARK'S NO. 1

has been brought out by Jas. J. H. Gregory, of Marblehead, Mass., and in describing it, he says: "This seedling originated in New Hampshire, is earlier than the Rose, and will yield from a quarter to a third more crop; it is mealy when cooked and of excellent flavor; is in every way a capital variety for either the farmer or market gardener. 450 bushels have been raised on an acre, and 22 bushels from one peck of seed."

There are a great many new varieties advertised every year in various catalogues. We again repeat, do not be led into making a large investment in any new seed until it has been tested in your vicinity, and proved a success. Send for seedsmen's catalogues. See those advertised in this journal. Make your selections from what sources you deem best; begin with a small quantity and try for yourself which is likely to answer best in your locality. We are strongly impressed that the Early Rose, which has done you good service, is destined very shortly to be doomed to oblivion, just as each of the other favorite varieties have, and then there will be a rush for some of the new varieties that will assuredly surpass it, and the men that obtain a few cuttings of the right kind in time will make a good honest penny out of his less thoughtful neighbor, who will be left with a stock of unsaleable Early Rose potatoes on his hands, and at the same time will have to pay a good price for his own seed. A few dollars spent on new varieties of seed is perhaps the best money laid out on the farm. Everything will not turn out right, but with judicious selections and small outlays the enterprising farmer will assuredly get ahead of a slothful, unenterprising neighbor. But never risk as much as 25c. if you cannot afford it without injury to yourself and your family.

Sugar Making from the Amber Cane.

Abridged from a paper read at the annual session of the Minnesota Amber Cane Association, by R. J. Wilcocks.

In the U. S. agricultural report the following statement occurs:—"The chief requirement for sugar making from the sorghum canes is their perfect maturity, and such maturity is dependent on correct cultivation and late cutting." This statement is equally applicable to all varieties of cane, but it is specially pertinent to us who in this northern climate deal with the amber and kindred canes. How, then, can we best obtain the early maturity so needful to success?

The proper selection of soil will help us in this matter. A warm, sandy loam, the richer the better, so that it is not enriched by rank fertilizers, would be very desirable. New land of this description if planted early will generally afford a sure and heavy crop. If new land is not convenient, select any good corn land not too much impoverished by heavy cropping.

We can secure the stimulating influence of fertilizers in the application of well composted barnyard manure, or in the well decomposed clover sod; to this may be added a liberal handful of plaster, or wood ashes, to each hill. By these we may promote the early growth and increase the size of the cane, and thus increase the yield of juice without injury to the sugar. Nor is this increase of the quantity at the expense of its richness.

The proper selection of seed will have much to do with the growth and early maturity of the cane. The seed should be selected from the standing cane. Take not only the earliest, well-ripened heads, but take only those seeds grown on the upper third or half of the panicles.

THE PREPARATION OF THE SOIL.

Fall ploughing will enable us to hasten the planting in the spring. We are also recommended to soak the seed from twenty-four to thirty-six hours in warm water, and then plant as early as possible. Plant shallow, but cover thoroughly, and then be ready to stir the ground at the first appearance of weeds, and keep stirring it as long as the weeds show themselves. Frequent cultivation hastens the growth of the cane; it destroys the weeds so that the sunlight and heat can penetrate the soil and give to the cane that condition of growth which insures abundance of juice and the richness of its quality which is the object of our efforts. Clean culture is a necessity if we desire paying results.

CANE SEED.

One of the most essential matters in order to make syrup and sugar making a success is a careful selection of seed we plant. The cost of seed is so small compared with the importance of the result in the crop we are to reap therefrom that it is poor policy to plant seed that is in any respect doubtful or that is not known to be of the very best quality.

A Note of Warning.

The present winter has been one remarkably adapted to the welfare of insect life, and it will not be strange if our common insect pests should be more than usually abundant during the coming summer. The open winter of a year ago, with its frequent thawing and freezing, seemed to have a marked influence on the abundance of insects, as last summer was particularly noticeable for their scarcity. Doubtless other conditions render the working of this rule, (or what seemed at least to be a rule,) variable, but still it may be worth remembering, for though we cannot control the weather, we may be "fore warned," and so keep on guard in order to apply the proper checks upon the first appearance of noxious insects, when they may be expected in abundance; or on the other hand, enjoy some sense of security when we consider that an open winter has killed off many of them.

It is said that if food is kept from sheep for twenty-four hours before killing, the mutton will have a better flavor. Much of the sheepy flavor of poor mutton is due to gases from the stomach penetrating the meat after killing.

The Mt. Sterling (Ky.) Democrat says: "The farmers still complain of losing lambs, some as much as three-fourths of the entire crop, on account of the cold weather. One man lost all but 17 out of 400."

Liquid Manure vs. The Hessian Fly.

Observing that in a corner of a wheat field where there had previously been a barn and yard, the wheat was not more luxuriant in its growth but as had not been attacked by the Hessian fly so badly, compared with the rest of the field. The writer infers that the offensive odors of the richer soil may have served to keep the insect off; but it is more reasonable to suppose that the stronger and more vigorous plants of the well manured corner were able to grow in spite of the enemy. Offensiveness does not long remain in the soil, even after a most liberal application of the manure. Apropos of the use of liquid manure, the writer observed a successful example of the method of preserving it, as well as of increasing the value of the solid portion, by a properly regulated rotting, in common practice abroad so far as its essential features are concerned, but altogether too uncommon in this country.

The drainings of the stable and yard are collected in a tank by the manure pile, for which all the manure and offal of the place is put in an inclosure sunk four or five feet below the surface and walled up to the height of about three feet above the surface of the ground; the part below the ground should be water-tight, except the outlet for drainage of surplus water into the tank. The fermentation of this accumulation of vegetable and animal refuse is regulated by occasionally pumping the liquid from the tank over it, so as to keep it always moist without being saturated with water; and when a supply of liquid manure is wanted for any purpose it is ready for use from the tank, provided that there is any surplus—a condition of things not likely to prevail unless the tank receives some other water than liquid excrement of the animals kept in the barn, and the rain that falls on the pile and on higher parts of the yard. Stable manure may not be worth the expense of such care in all parts of the country; but there is no question that it should be thus preserved from waste in a great many localities where it is now left to be alternately dried in the sun and washed out by drenching rains or running water.—[Tribune.

Dr. Schubeler, of Norway, and his associates after years of observation, arrive at the following general conclusions respecting seeds grown in different climates or conditions:

"1. The grain of wheat that has been grown in low-lying lands may be propagated with success on the high lands, and will reach maturity earlier at such elevations, even although at a lower mean temperature. Such grain, after having been raised for several years at the highest elevation which admits of its cultivation, is found when transferred to its original locality to ripen earlier than the other crops which had not been moved. The same result is noticeable in grain that has been transported from a southern to a more northern locality, and vice versa.

"2. Seeds imported from a southern to a northern locality, when sown within the limits compatible with their cultivation, increase in size and weight, and these same seeds when removed from a more northern locality to their original southern home, gradually diminish to their former dimensions. A similar change is observable in the leaves and blossoms of various kinds of trees and other plants. Further, it is found that plants raised from seed ripened in a northern locality are hardier, as well as larger, than those grown in the south, and are better able to resist excessive cold.

"The further north we go—within certain fixed limits—the more energetic is the development of the pigment in flowers, leaves, and seeds. Similarly the aroma, or flavor, of various plants or fruits, is augmented in intensity the further north they are carried within the limits of their capacity for cultivation; conversely, the quantity of saccharine matter diminishes in proportion as the plant is carried further northward."

Some observations made at Glessen last winter by Her Hoffmann threw light on the way in which plants are injured in time of hard frost. The great advantage of a hilly position was then apparent; the plants so situated took little or no harm, while in the valley there was extensive injury. The injury, too, decreased in proportion to elevation above the valley. Still more instructive was the fact that one and the same bush was killed in its foliage on the south side, while on the north side it remained green. The author infers that it is not a particular degree of cold that kills a plant, but the amount of quick thawing.

Stock.**The Coming Sheep.**

The philosophy of evolution and development appears to be supported by the history of our live stock. Those who have traced out the rise and progress have also had to record the decadence and the fall of races of cattle and sheep. The old Long-horn, brought to perfection under the skillful management of Bakewell, waned and vanished under the superior qualities of the Short-horn. It would indeed be touching upon delicate ground to hint that this pet of the great ones of the earth could be displaced from her temple. All things, however, come to an end, and exorbitant sums of money given for individuals for no special excellence except what exists, or is supposed to exist, potentially in the mysterious virtues of pedigree, savours of that luxury which precedes decay and dissolution.

The history of our chief breeds of sheep affords more than one instance of improvement and abandonment. Take, for example, the Leicester. Fifty years ago this breed might appropriately have been said to "rule the roost." Now, except in a very few countries and among a small minority of farmers, the Leicester has been superseded. The Cotswold sheep is said to be going out, even upon his own hills, and does not seem to be spreading rapidly in any other locality. The Southdown was to the short-wooled races as the Leicester was to the Long-wools. Scarcely a breed was not improved by his touch, and for this reason alone the Southdown will always hold a high position in the history of British flocks. Still, it must be confessed that the Southdown has ceased to be a rival for the popularity with large and more profitable, if less shapely, breeds of sheep.

One of the greatest advances in sheep breeding was made by Mr. Druce, of Eynsham, when he successfully crossed the Hampshire Down and the Cotswold, and thereby produced the Oxford Down. The rise of this remarkable breed has been rapid, and it seems likely to extend further in its geographical distribution. It is undoubtedly a farmer's and a rent-paying sheep, possessed of great vigor of constitution, and it is in good hands. It has been hard run by the Shropshires, a race of mixed origin, but of great excellence, which has also had its day. No doubt a future is in store for both these breeds, neither of which was known some forty years ago. An unfortunate predisposition to foot lameness, one of the weakest points in the favorite breed of the Midlands, and a slowness in coming to maturity, may possibly be also recorded against them.

The last breed we have to mention is one which deserves very special mention. He has not as yet attracted a large share of public notice. Columns of show reports have been lavished upon Leicesters and Southdowns, but scant notes have been usually thought enough for the Hampshire. They have not been pushed or taken up by the great. They have, however, been long carefully bred by a large number of first-class tenant farmers around Salisbury, and tended by a good and faithful race of shepherds. We venture to assert that the Hampshire sheep is not sufficiently known and appreciated. There is no race in England, or in the world, which can vie with it in the production of large-sized lambs of from six to eight months old. Shropshire lambs are simply "nowhere" to them. Let any unprejudiced person attend the ram sales in July, held by Messrs. Waters, Sons, & Rawlins, near Salisbury, and if he has never seen a Hampshire lamb before he will be astonished. Then you will see lambs which present you with a pound weight per quarter from the day they were born. No one thinks of using shearling rams, as they would be too heavy and unwieldy if not used as lambs. As yet, the Hampshire breed has been insufficiently represented in our show yards, but we expect soon to see a change in this particular. Such a breed cannot be comparatively hid from public notice, but must come out. His hardiness, size, and quality of mutton, are all unsurpassed. He thrives between hurdles, and never asks for greater liberty. He is extraordinarily docile and intelligent, and can be brought into such perfect training that a word from the shepherd suffices to guide and control his movements. In the district in which this splendid race of sheep are found in the greatest perfection, it is not uncommon to realize as much as 60s. or even 65s. per head for lambs of from seven to eight months old. It is in those parts customary to sell off the wether lambs, and retain the ewe lambs and ewes

as winter stock. If, instead of selling the lambs at autumn fairs, they were kept on through the winter and sold out, as is the case with most other breeds of sheep at ten to thirteen months old, they would make prices which we are confident in maintaining that no other race of sheep could touch. These are strong points in favor of the Hampshire sheep, insuring him a brilliant future, and in a certain sense the title we have placed at the head of these remarks.—[Agricultural Gazette, Eng.]

The Swine.

THEIR MONEY VALUE—IMPROVEMENT IN THEIR MANAGEMENT.

In referring generally to the swine industry, the following paragraphs are significant and will hardly be without interest to breeders as well as farmers generally:—

"No other breed of domestic animals representing anything like so great a money value as the hog can compare with him in prolificacy. The product of one sow in ten generations, liberal allowance being made for losses from accidental deaths, has been estimated to be 6,000,000. Therefore, whatever increase in demand, and consequently increase in the price of pork products may at any time occur, can be quickly supplied and the price brought down by increased attention to production.

"Corners may be made by speculators on the cured product after it has passed out of the hands of the producers, but no rings or monopolies can determine as to the numbers to be reared or fattened. This will always keep pace with the demand, increasing steadily and surely as it increases, so that, as a general rule, no remarkable variations in the profits to be realized by the farmer or feeder may be expected; consequently all mere speculations or figuring as to the probable rise or fall of prices may as well be left to the commercial manipulator, while the farmer devotes his attention to placing on the market the best quality of products at the least possible expense to himself. He who best understands his business will be the one to realize the greatest profit. The chief variation in profits will be between those realized by the wide-awake, enlightened manager and those of him who moves slowly on in the hap-hazard way of former days.

"The search in this country during many years past for the most certain and speedy methods of improving stock, has created, as one of its results, a growing desire on the part of breeders and farmers to possess recorded animals. No better evidence of the value of such animals could be desired. Experience in matters of this kind is usually much better than mere theory.

"It is worthy of note that other material changes in the management of swine are beginning to prevail. The practicability and economy of having hogs reared chiefly on grass is every year being more clearly shown. Grass-fed hogs are, without doubt, more healthy and make a better quality of meat than those reared mainly on corn. Indeed, there seems to be no reason why swine cannot be kept on grass as profitably as cattle; not merely as the followers of cattle, but as independent agencies for the conversion of grass into meat. Having made their growth on grass chiefly, they could in a short time be fattened or ripened off on corn. The rearing of swine might in this way be made profitable on lands well suited to corn growing, and money thus invested could be turned annually, instead of at longer intervals, as in the rearing of cattle.

"The difference between the work of the professional breeder and that of him who rears and feeds hogs for the pork market is also being better understood. The latter seldom pays much attention to the breeding of what are known as pure-bred hogs. He is content to buy pure-bred males from some professional breeder who makes a specialty of producing these for the general farmer and feeder."

The debate on the Tariff Bill was continued in the French Senate recently. In accordance with the proposals of the Committee, it was decided to raise the import duties on live stock in the following degrees:—On oxen, 30 francs per head; on cows, 20 francs; and on sheep, 3 francs. An official decree was published in Paris prohibiting the importation into France of salt pork, bacon or ham from the United States.—[Liverpool Journal of Commerce.]

Beans as Food for Sheep.

A correspondent of the Country Gentleman says:—I have been in the habit of feeding beans and bean straw to my breeding ewes for several years, and have never experienced any bad results, having fed liberally of both. Beans and bean fodder are as natural for sheep as hay and oats for horses. Our custom is to feed poor beans—the pickings. We buy them of the dealers, paying ordinarily 25 cents per bushel, depending somewhat upon the supply. I consider them the best and cheapest food for breeding ewes up to about yearling time, when two parts bran, and one part corn meal, should be fed at least once a day, and a liberal feeding of roots, once a week, through the winter.

My ewes thus far have had only straw and beans, with an occasional feed of roots, at the rate of about a pint each per day, fed morning and evening. They have pure water every day, which I consider very essential. I care more to have my ewes in good condition and strong than to fear that certain kinds of food are injurious. More lambs are lost by lean, weak mothers than by overfed ones. It is worthy of remark that in ewes fed for market, if an occasional one happens to be in lamb, she always brings forth a strong, vigorous lamb, really making ewe and lamb worth more than the average of the flock.

The Feeding Value of Bran.

The late Alexander Hyde, a well-known agricultural writer, had a high opinion of the feeding quality of bran. Experience of stock-feeders has confirmed the opinion long held by men of science that in some essential elements of food it is much richer even than the pure kernel that it encloses. Mr. Hyde says:—

The conclusion is irresistible that bran has not been sufficiently appreciated as food for stock in past times, and that Dr. Graham was right when he recommended unbolted flour as the best for bread-making. Graham flour is specially adapted for children, as it furnishes the material for making bones and developing teeth. Some objection is made to the use of bran by farmers, as it has a laxative tendency. This is due to mechanical, not chemical, influences, the coarse particles, when fed alone, often irritating the intestines especially at the first feedings, if given in large quantity. This may be obviated by feeding bran gradually at first, and in connection with hay. A slightly laxative condition of the bowels is far healthier than constipation; and if children are troubled with the latter, Graham bread is just what they need.

One great recommendation of bran as feed for stock is that it makes the manure pile so rich. A large proportion of the inorganic matter (ash) in bran is composed of the various phosphates, just what most old soils need, those salts having been carried off in the milk and sold. We have seen wonderful changes produced on old farms by liberal feeding of cows with wheat bran. The pastures in a few years have renewed their age. Rye-bran is not quite so rich in ash as wheat, but it makes an excellent food for producing milk, as it contains over 12 per cent. protein compounds, just the thing for cheese-making, and over 2 per cent. of fats. Indeed, dairy farmers generally give the preference to rye bran, and one reason is that it is finer, and does not induce such a laxative condition.

MORE CATTLE DISEASE IN THE UNITED STATES.—It is reported that a strange and malignant disease has broken out among some of the large herds of cattle on the plains in New Mexico, causing the death of hundreds daily. The authority for the statement is J. G. McCoy, of the United States Census Department, who has just arrived at Topeka, Kan., from New Mexico. By request, Mr. McCoy addressed the Kansas House of Representatives upon the subject, stating the stock interest of Kansas and the west would be jeopardized by any further spread of the disease northward. Mr. McCoy said the malady originated on the southern line of New Mexico, and was sweeping the cattle off like grass before a prairie fire.

As much as 70,000 acres are said to have been added last year to the previous area of French vineyards ruined by phylloxera. These minute insects are hidden in the soil, and cling to every root, from which they absorb the supplies, leaving the vine to starve.

Poultry.

Incubation.

BY R. A. BROWN, CHERRY GROVE, ONT.

There has been so much said upon the treatment of natural and artificial incubation that we are loth to give any directions. However, we will venture a few remarks—first, on artificial, and second, on natural. I would not at present advise any one, especially farmers, to buy an artificial incubator, for not one in a hundred is of any use, except to spoil eggs, or to set hens in, for which purpose we have been almost persuaded to buy one. Then the eggs put therein would have a chance to undergo the act of incubation while in that wonderful contrivance, the Glass Hen. To hatch out eggs by artificial heat requires more skill than many suppose. There have been hundreds of machines tried and patented and thought to be perfect, but have been found useless, for with those machines a man has to attend them night and day until the eggs are hatched.

We do not doubt nor deny that chicks may be hatched out by artificial means, for we are well aware of the truthfulness of such statements. We have seen those contrivances at work, which appeared to answer the purpose for which it was applied. But it is of the paying properties that we wish to speak. It is well understood that in Egypt eggs are hatched out by the thousands in ovens constructed for the purpose. The first mention we have of those is by Father Sicard, and his information was very limited. All he knew was that chicks were hatched there by those means just named, for he says the art is known only to a single village called Beorne. The inhabitants of this village teach the secret to their children, and keep it from all strangers. He tells us we ought not then to wonder that this method should not be used in Europe.

Aristotle told us that the Egyptians hatched eggs by covering them with dung, and at the allotted time the eggs unfolded their chicks.

M. de Reaumur tells us also that in England Bradley and Derby made a hot bed of dung, and placed a vessel like a garden pot, but not so deep, half filled with wool, on which the eggs were placed, and then covered with four inches more wool. The vessel was then covered with glass, such as is used for a hot-bed.

No further attention appears to have been paid to it, and we are asked to believe that chickens were hatched out.

To count the cost of the machine that was on exhibition at London last fall, we quote from Mr. Axford's circular that "This is no toy." If any one thinks that this machine can be run with success by anyone he is much mistaken.

It takes a man of skill to operate with success one of the best incubators made; what then with one made by guess work and experiments, simply failure. A machine capable of holding 500 eggs cost \$100. It burns one gallon of oil in 24 hours, and requires the attention of a skilled laborer at \$2 per day. Then an artificial mother is required (capable of accommodating all the chicks) at a cost of \$50, and one gallon of oil per day for ten days. Now add the cost of this with the prospect of selling at a profit. It is often said that there is more in the man than in the business. There are exceptions even to this, and that is locality. If a farmer is living near a city where prices of chicks are higher accordingly than eggs, he may succeed in making artificial incubation pay.

The next inquiry is what will you do with early chicks to save their lives, if hatched by hens? or, how will you get hens to sit early enough? Those questions are easily answered. To get hens to sit early requires a variety like the Buff Cochins. If they are well fed they will lay all winter, and as soon as the spring opens you will find early setters enough to fill the bill, if you have only enough of them.

Next, to be ready to receive the chicks as soon as they arrive, get a large box, such as merchants pack goods in for transportation. Knock one board off the end and place on the top a sash of glass, such as gardeners use to cover over hot-beds. One end will be higher than the other place, the lowest end to the south, so that the sun may fall directly in the box through the glass, beneath which will be placed your chicks.

Next, cut a small opening at the side, or end, and place a small box, minus the end, close against the hole. This is for the mother hen to cover her chicks in during the night. Or place the small

box inside the large one in one corner, which can be taken out every day and cleaned; though if placed outside, as first mentioned, it can be easier cleaned, and it will be the more likely to be done.

If those items are observed, a farmer may safely hatch out chicks in March and April. Have your sitting hens always on the ground if possible; if in a box put about four inches of earth beneath the eggs. Of course always use cut straw or chaff on the earth just mentioned. Let your hen sit a couple of days before you put valuable eggs under her. See that she comes off every day for food and water, and is sure to return again to her proper place in a few minutes after being off. If she is sitting where she cannot get into the damp grass, or get her feathers dampened after the tenth day, sprinkle tepid water on the eggs every second day, which will cause the shell to break easily, and supply the young chick with moisture, which is a necessity to the health of the young inmates.

Game Fowls.

Some persons have a very mistaken idea of game fowls, and consider them as bred only for sporting purposes, and all who breed them as cock fighters. While this may be true in some cases, it is far from being general, and there are scores of breeders who breed the different varieties of Games for practical purposes, as well as for pleasure. In point of symmetry, graceful carriage and proud bearing, they have no equals amongst the feathered tribe, and all who admire these qualities cannot but be pleased with the noble Games.

There is no breed which possesses more stamina than do the Games, and it is difficult to find weakly, puny chicks amongst them, if they have been accorded proper attention and given plenty of suitable food. As layers, they are excellent, and the rich flavor of their eggs commends them to all who have an epicurean taste for the good things of this life. While we have seen some flocks which were good winter layers, under the most favorable circumstances, the good qualities of the blood of the game fowl in this respect is most observable in judicious crosses on other fowls, as for instance, on the larger bodied Light Brahmas. We have in mind now several flocks of cross-bred birds of this kind, which seemed to be the long sought for kind of winter layers, for they shelled out the eggs just when eggs were the scarcest and highest priced, and took their vacation when eggs were plentiful.

These birds did not do this on a few scattered grains daily, and when using trees or open sheds as their roosting quarters, for they were too sensible for that, if some breeders and farmers are not, but they repaid kind treatment, plenty of suitable food and comfortable sheltering by a generous and timely supply of "hen fruit." Those who expect that all depends on the hens and nothing on the breeders, will be apt to be as disappointed with these as with any other breed they may attempt the rather expensive experiment with.

The general favorites seem to be the Black Breasted Reds, though nearly every variety on the long list of games has its particular admirers and advocates.—[Poultry Monitor.

Selecting Breeding Turkeys.

While feeding is no doubt what has improve our different breeds of live stock and poultry, the only way to perpetuate this improvement, in an intelligent form, is by careful and systematic selection and mating of the breeding stock. Unless this be done, nearly all the improvement which has been gained will be lost with the first generation.

An old German farmer, who was renowned for the high and uniformly good quality of all his stock on the farm, was asked which were the most desirable turkeys to be used as breeders. His reply was that "any are good enough, provided they are the best," and this was the principle he had so successfully carried out with all his breeding. The question naturally arises, which are the best? and much depends on the locality and upon the kind of trade you wish to supply. Two year old hens are invariably better than those only a single year old, for they are larger, stronger and invariably produce stronger and more healthy chicks, less liable to be effected by the variations in the weather so frequent in the spring, when so many of the chicks drop off so unaccountably and suddenly.

In selecting the gobbler, get one which is not too spindling or tall in the legs nor narrow and

short in the body. These are the extremes to be avoided. The hens should be broad and heavy in body and strong in the legs, else they will break down, rendering them utterly worthless as breeders.

In catering for the general market, we have found, from careful observation, that the demand is for medium sized birds, say averaging about ten pounds each, and it frequently pays much better to rear this kind, for the simple reason that they are hatched later in the spring, when the weather has settled and scarcely any of the young die from exposure or the inclemency of the weather. When a farmer or breeder is catering for the trade from fanciers and breeders, it is very desirable that early birds should be hatched, though this need not prevent hatching out several broods, either for home use or for market purposes.

The Bronze variety has invariably given great satisfaction, and is now regarded as the very best for general breeding purposes, whether for farmer or amateur.—[Ex.

The Apiary.

Dollar Queens.

BY CHAS. F. DODD, NILE, ONT.

As the season is fast approaching when a number of queens will be required to take the place of those that have died during the winter, and to Italianize black colonies, I think a few words about the price of Italian queens would not be out of place.

There has been a great deal said through the Bee Journals during the past season about "dollar queens." It is claimed by certain writers that good vigorous queens cannot be sold at so low a price, and they roundly condemn the sale of low priced queens, as tending to produce a class of bees lacking in the desirable characteristics of the Italian race. Our own experience, as well as that of many other practical queen breeders, convinces us that we can well afford to use only the choicest imported stock, and employ such methods as will ensure long lived and fully developed queens, and sell them as soon as they are fertile and begin to lay, for one dollar, as to keep them the thirty to sixty days necessary to thoroughly test them, for \$2.50.

In a majority of instances these self-same dollar queens are just as good as the higher priced ones; and where tons of honey are the object of the apiarian, who prefers to buy queens largely, in preference to raising them, we should most heartily recommend them. But bear in mind that we should always buy of the dealers whose queens are just what he represents them to be.

On the other hand, if the apiarist prefers to rear his own queens, then we should buy only the choicest, selected, tested queens to breed from, that could be obtained, regardless of price, knowing that in the end, the best would be by far the cheapest.

It seems to us that the law of supply and demand will solve this problem, however difficult and complex it may appear to be.

In our opinion dollar queens will continue to be sold by the thousand, and the man whose queens possess the desirable qualities of the Italians, in the highest degree, will be likely to have a ready sale for all he can produce.

The Iowa College Farm folks made all their own sugar last year from Orange cane, a superior kind of sorghum. Several Canadian farmers have experimented with Amber cane, and have produced sugar and syrup of good quality. Will the Ontario Agricultural College follow the example of Iowa?

MIXED FARMING.—When every farmer comes to that point when he knows that his land is a medium through which crude fertilizing elements pass in becoming food—vegetables, fruits, grains, flesh—he will feel the importance of a variety of products—a rotation of crops—and the value of animals in the economy of the farm. As our country grows older, farmers will from necessity be more thorough students of their profession.



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.

Prize Essay.

SIR,—Wishing information in regard to the manufacture of Potato Starch, I take the liberty of applying to you for information.

1st. Are there any starch factories in the Dominion, and if so, where?

2nd. What would it cost to erect one capable of manufacturing 2000 to 3000 lbs. per diem, also the working force required?

3rd. Would \$2000 be sufficient working capital for such a factory?

4th. How many pounds of starch are made from a barrel of potatoes?

5th. What is the market price per lb.

6th. Could it be sold in Canada, or would it be exported to the United States or England; would it meet with ready sale.

7th. For what is it chiefly used?

8th. Does it pay a good per cent. on investment?

J. S., Spring Hill, York County, N. B.

[We will give \$5 for best essay in reply to above letter. Essay to be in our office by the 20th of May.]

THE CURRANT WORM.

SIR,—Is there any way to preserve our small fruit for our own use, and not have them all taken from us by our insect enemies. I dusted my currant bushes last season with hellebore, as directed in the ADVOCATE, but it failed to protect the fruit. Is there any more effectual remedy? I am well pleased that you pay so much attention to the garden, the fruit garden especially, as fruit is becoming a very important item of the products of the soil.

A. M., Glencoe, Ont.

[There can be no doubt that the currant fly has caused great loss to fruit growers. Some gardeners, who had been in the receipt of a nice little sum yearly from this and other small fruits, ceased entirely growing currants. We have, however, been able to prevent their devastations in a great measure. We watch closely for the first symptoms of the fly making its appearance, and then apply hellebore. In some instances a second application may be necessary. The hellebore is sometimes mixed in water and sprinkled from a watering pot. We also use wood ashes, sprinkled on the bushes and around over the roots when the leaves are first formed, applying it when they are wet with dew or rain. The following stronger dose for the fly is used by some gardeners:—Take of hellebore one pound, sulphur two pounds, wood ashes dry, and unleached one-half bushel as fine as you can get it. Mix these ingredients thoroughly with a shovel. When it is mixed dust the mixture on the bushes while they are wet with dew. Watch the bushes closely, and as soon as the fly makes its appearance use the prepared dose, and if properly applied it cannot fail.]

LAND PLASTER.

SIR,—Doubtless the benefits of Nova Scotia plaster can be seen upon meadows in the rich green, and luxuriance of growth. I have seen it exemplified in several cases, but it should not be used in large quantities or too often, else its benefits will be counterbalanced by the evil result of too large a dose of mineral in the surface sod. Plaster remains in the soil and does not decompose. I believe for a pasture or meadow the best results are to be had by using plaster in the spring and a broadcast dressing of salt about midsummer. Let some of our large grazers try this and note the result.

A. M. A., Huron, Ont.

A FARM FOR SALE.

SIR,—I am an old man upwards of 70 years, and my sons are all settled. Now, I want to sell. This farm cost me, 21 years ago, about \$8,000, including about \$1,200 expended on the house. It is a lively place, and in winter is well sheltered from the north winds. This year it cut about 30 tons more hay than it did twenty years ago. The interval cuts from 1 to 2 tons of hay per acre, oats 40 bushels, wheat averages about 18 bushels, corn 30 bushels, and turnips 500 bushels. The side hill is well adapted for sheep. I can honestly recommend it to J. T., Kingston, Ont., and will be obliged if you will call his attention to it. The farm comprises about ninety acres of interval, seventy-five acres of side hill and wood land, and thirty to forty acres of up land. The N. B. Railway Co. are building a bridge over the St. John, a little below my farm. It will be 2,200 feet long and about 40 feet above the river. This railway has passed into other hands, who are making it 4 ft. 8½ in. gauge to Edmonton, and the distance from thence to Rivere Du Loup (70 miles) will be railed perhaps this summer. The Dominion Government have granted a \$25,000 subsidy towards establishing a line of steamers from St. John to Liverpool.

J. F., Upper Woodstock, N. B.

[It always gives us pleasure to receive communications from our New Brunswick friends, and would say to our farming friends in Britain (we mean those that have been used to the comforts and refinements of Europe, and have passed the meridian of life) that, in our opinion, New Brunswick and the Maritime Provinces offer advantages such as cannot be obtained in the west, south, or north. The soil, on an average, is not as rich as in the prairies of Manitoba and the United States. If we had regard to life, health and happiness, we should by all means prefer residing in the Maritime Provinces. So much were we delighted with many places that we saw that we intend to again visit that healthy, peaceful and loyal part of this Dominion.]

EXPERIENCE WITH EARLY AMBER SUGAR CANE.

SIR,—In October, '79, I went west, and one thing I had in view was to get all the information I could in regard to the growing and manufacturing the sugar cane. On leaving home I took some of my own cane syrup, so as to compare with those in the west, and in every instance my syrup was the best. I went to the fields in the west and gathered seed and brought it home. Last spring I planted some of the seed and sold the rest to farmers in this vicinity. The growth was large, and in some instances grew to the height of twelve feet and upwards. I planted twenty-two square rods of land, and it produced twenty-nine gallons of syrup, equal to the best golden syrup. One half of what I planted was the Minnesota early amber, the other half Oomseeana cane. Each was worked separately, so I could ascertain which was the best variety. The amber cane is good cane. Oomseeana, as far as I can ascertain, grows larger, has more saccharine matter, and produces more juice than any other cane that I have tried. There is one objection—it is about one week longer in ripening or becoming fit for use than early amber. I also have the China sugar cane; it is later than the early amber cane. I have not raised enough of it to test its quality; it is not as large as the other two varieties. The syrup of the Oomseeana is equal, if not superior, to the M. E. amber. We manufactured last fall about eight hundred gallons of syrup, giving good satisfaction to every patron. I think the time is not far distant when this country will make all its own syrup and sugar. I would caution any one buying cane seed. In the spring of '80, I sold all the cane seed that I had to spare, and a number of others sent to Hamilton and elsewhere for early amber seed. When the cane was brought to our factory to be worked, in every instance the cane had not more than one-half as much saccharine matter, and the syrup was not as good as that grown from the seed that I brought from the west. In writing this I do not for one moment blame the seedmen, as it is my impression that they are not competent judges of the different varieties of seed. Cane seed differs very much, according to stage of ripening. For instance, cut the Minnesota early amber when the seed is in the dough state, and the Oomseeana when ripe. It is very difficult to see the difference and seedmen are liable to be imposed upon.

S. A., Clinton, Ont.

OAT HULLS AS FEED.

SIR,—Will you or some of your many readers inform me through your paper as to the value of oat hulls, as I fail to see what value there can be in them as feed for cows after they have been laid on the kiln and dried, so that nothing but the hulls come from the oats. I do not think it so good as so much cut oat straw, but if my opinion is at fault in this I shall be pleased to be set right on the matter. I want to do what is best for the interest of the stock and farm. Many go to the mill, pay \$5 per 100 bags of this; then take time, going with team, say \$2 or more; that will make \$7 per 100 bags. I think that the same money in oats will pay much better, unless the hulls contain a certain manurial value.

I cannot see where the farmer can get any return for his money spent. If I feed any thing I like to be satisfied that I can look for good in some way, either in cow or in land.

I would like to know the relative values of oats and barley straw, for I can not see anything like flesh or fat producing matter in barley straw, and the awns are very troublesome to cattle and more so to horses, and it has at times proved fatal in some cases.

W. T., Ostrande, Ont.

[Oat hulls are of no value as food; all money spent for them is worse than lost. We have heard it said some feed them with shorts and finely ground grains, to prevent clogging in the stomach; but wheat chaff or cut straw will be of much more value and less expensive. We have no analysis of oat or barley straw, but from experience we have found little difference; in their value as food for stock when they were equally well preserved, both should be cut somewhat green, in order that the straw may be of the greatest value. Oat straw is less praiseworthy and more pleasant to handle.]

FARMERS' CLUBS.

SIR,—In your March No. I notice an article on Farmers' Clubs. The great distinguishing feature of this nineteenth century is association of capital and of intellect. The merchant, lawyer, doctor, in fact almost every other industrial and professional occupation, have publications devoted entirely to their interests, and form societies for mutual assistance; but the farmer, although industrious, careful, and in some respects shrewd and intelligent, and upon whose success or failure the whole social fabric depends, is almost entirely without an organization, holding very little intercourse with his neighbor, and seldom exchanging ideas on matters of vital importance. Now, I am not in favor of Township Shows, but I believe that a farmers' club in every School Section would be a very good thing. Commence, say, in the early part of December, and meet every week till the first of April. Then select six or eight men in the different parts of the section, and let the members of the club visit each one of them during the summer months; say, visit A on the first of May and B on the first of June, and so on till the end of the season. Then the one whose farm, stock, implements and general surroundings are in the best condition, bring him forward as a member of the Committee of Management of the County Agricultural Society. This would secure practical men in the proper place, and be a great benefit to any Society. It may be urged that farmers have no time in the summer for any thing of this kind, but if a circus or a political meeting can be attended without any grumbling, then surely a few hours once a month, an afternoon or an evening, it would be well spent in walking over a neighbor's farm and criticizing this, recommending that and pointing out how difficulties may be overcome. The winter season may be spent in discussing points of interest, and much general information be obtained. The sooner the farmers wake up to something of this kind the sooner will they occupy the position which they are entitled to, and not be at the mercy of every sharper that comes along.

J. H., Brantford, Ont.

SIR,—Can you or any of your readers tell me where I can get the "Goodenough Horse-shoe." I used to use them entirely, but latterly have been unable to get them. Where can I get berry baskets?

A. J. W., Lakefield, Ont.

[Any who manufacture the "Goodenough Horse-shoe" would no doubt find it profitable to advertise in this journal. For berry crates see advertisement of N. D. Batterson, Buffalo, N. Y., in this issue.]

Cattle Foods Compared.

SIR,—In looking through the March number of your most valuable paper I saw an article written by E. H., which is well worthy the most careful consideration of all farmers and cattle feeders, namely, "By what food can beef be produced the cheapest?" I concluded, by your permission, to give a few views in connection with this most important subject.

E. H. asks the question, "Is oil cake a good substitute for turnips for fattening purposes?"

I think it is. I have noticed, by my own experience, that oil cake has greater power to dissolve grain fed to animals than turnips. When grain is ground coarse and fed to animals in connection with turnips it will pass through the animal as fed, but when a little oil cake is mixed the grain will be dissolved, and I am also satisfied it keeps cattle and sheep in a good, healthy and thrifty condition.

E. H.'s 2nd and 3rd questions—"If so, would it pay a farmer to buy oil cake at \$29 per ton, providing the farmer could raise 25 bushels of wheat per acre, at \$1 per bushel, on his turnip ground, or 400 bushels of turnips per acre, and stop raising turnips, taking into consideration the greater expense cultivating and conveying the root crop to the barn? Which would be the most profitable, or what mixture, of the following to buy for fattening purposes?"—

Corn.....	at \$21 per ton.
Peas.....	" 23 "
Barley.....	" 25 "
Middlings.....	" 15 "
Bran.....	" 12 "
Oil cake.....	" 29 "

This we must consider by comparing the cost of the production of turnips, with their relative value, and the cost of grain to take the place of turnips, and their relative value. First we will consider the cost of producing one acre of turnips:—

Fall ploughing.....	\$ 1 50
Spring gang ploughing.....	50
" " ploughing.....	1 50
Harrowing twice.....	40
Ten loads manure.....	10 00
Distributing ".....	50
Horse hoeing twice.....	1 00
Hand ".....	4 50
Drilling.....	75
Seed and seeding.....	1 75
Harvesting.....	7 00
Total cost.....	\$29 05

By this reckoning we see that it costs \$29 05 to produce 400 bushels of turnips, which, I think, in the vicinity of Washington, is rather a low average crop; but no doubt E. H. makes allowance for rotting and freezing, which may occur, and often does occur, after the roots are harvested.

To make my views plain to the readers of the ADVOCATE, I will give a table showing the relative value of the foods in question gathered from the best chemical authorities:—

Turnips contain 8 per cent. of fat and flesh forming materials.

Corn " 79 "	" "
Pease " 73 "	" "
Barley " 80 "	" "
Bran " 64 "	" "
Oil cake " 82 "	" "

Middlings, I have no analysis.

Now, 400 bushels of turnips, or 2,400 lbs., 8 per cent. of which is fat forming material, shows that there are 1,920 parts of fat and flesh forming material in one acre of turnips, and one acre as above shown cost \$29.05.

\$29.05 buys	2,766 corn, which contains	parts of fat & flesh forming material.
" " 2,526 peas,	"	2,185.14
" " 2,324 barley,	"	1,843.96
" " 4,841 bran,	"	1,859.20
" " 2,003 oil cake,	"	3,098.24
		1,642.46

So we see by this table that we can buy more fat and flesh making material in corn and bran for \$29.05 than we can raise in one acre of turnips, leaving peas, barley and oil cake a little behind.

As question 3rd inquires, "What mixture would be most profitable for fattening purposes?" I will give a mixture according to my own views of feeding, as also based upon chemical values:—

lbs.	Chemical Value.	Money Value.
1,500 corn	1,185.00	\$15 75
500 oil cake	410.00	7 25
1,008 bran	545.12	6 05
3,008	2,240.12	\$29.05

This table reveals the fact that this mixture of food, which can be bought for the same price as one acre of turnips can be produced, contains 320.12 more parts of fat and flesh material, which would be worth about \$4.20. Now we will consider the cost of the production of one acre of wheat:—

Ploughing.....	\$ 1 50
Harrowing three times.....	60
Ten loads manure.....	10 00
Seed and seeding.....	2 00
Harvesting.....	2 00
Threshing and preparing for market.....	1 25
Total cost.....	\$17 60

The average crop being 25 bushels, at \$1 per bushel, making \$25, leaving a profit of \$7.47.

So when we come to summarise the above we find that in wheat growing we have a profit of \$7.49 per acre, where in turnip raising we have a loss of \$4.20 compared with grain feeding, which would leave a balance of \$11.69 in favor of wheat growing. But, says one, turnips are such a valuable crop for making manure. But I fail to see the great value of manure of a crop of 400 bushels per acre, of which there is over 60 per cent. water, compared with the value of the manure produced from the feeding of 3,008 lbs. of grain, together with the manure produced of about one and-a-half tons of straw grown from one acre of wheat.

I am aware that not a few of the readers of the ADVOCATE will disagree with me, and I hope others will take up the subject and discuss it further.

A FARMER, Wilmot, Ont.

[We do not agree with several of the conclusions drawn by our correspondent. The yield of turnips considered, is below the average, and the wheat above, the cost of cultivation is estimated rather high; but we are sure our readers will derive much benefit from reading and considering the statements made in the above. This is an important subject to the farmer, and one which in Ontario has received little attention. We hope those who have had experience will reply to this letter, giving their views on the subject, and will no doubt receive benefit themselves from the replies of others. Our columns are always open to the discussion of any subject of interest to the agriculturist. Will be pleased to hear from this correspondent again.]

The Agricultural and Arts Association

SIR,—There can be now no doubt but the verdict of the Ontario agriculturists is strongly in favor of the early demise of this Association, and we are not without abundant evidence to support such a verdict. The shortcomings of the Association are many and continually on the increase. It takes about an average of \$17,000 to distribute a prize list of not over \$12,000. But this is not the worst feature of the case in my humble estimation, although it should be sufficient to warrant any Government in withholding the annual grant of \$10,000. I see from time to time complaint has been made through your columns, and in other Ontario journals, of the selection of judges made for the annual exhibition, and my experience (which extends over many years) and acquaintance with the selection of such judges compels me to admit that in a large number of cases the results have been greatly to the damage of stock breeders especially, as well as a disgrace to the Board of Directors. At the last exhibition, held in Hamilton, I saw instances where through pure favoritism men had been appointed judges who were totally unfit to fulfill the duties, or were interested parties and would give only such decisions as would insure to them the favor of their stock friends. In the Ayrshire class one of the judges was so ignorant that I question if he could pick out an Ayrshire from a mixed herd. In the class of Southdown sheep the ignorance displayed was most deplorable, and among the Durhams clear cases of favoritism were discernible, as well also in two classes in the horse ring. At the last Provincial Show held in London a laughable circumstance took place which illustrates my case very well. A breeder of Southdown sheep from near Toronto was there with some pens of sheep. The morning upon which the judges were to make their awards

the owner was seen among his sheep getting them in order to appear neat and trim before the judges. While thus engaged an elderly gentleman with a judge's badge pinned to his coat collar came that way, and looking on, addressing the breeder, said, "What do you ca' thae black-faced beasties?" The proprietor replied that they were Southdown sheep. The judge (save the mark!) remarked, "Soothdoons, are they? I believe I am a jedge o' thae things the day." These abuses have been pointed out again and again to the Directors, but no remedy has been applied. If the judges had to undergo an examination before a few practical men in each department prior to beginning their duties, what a sorry figure many of them would make! And yet there is nothing so important in connection with any such association as a proper selection of competent judges. See what awaits their decisions often! Purchasers in quest of the best animal too often find their mistake in purchasing the prize animal; it may only be a well fed mongrel!

Then again we turn to another matter for which the Association is responsible, namely, the Canadian Herd Book. I see several correspondents in your journal complain of delays, etc.; this is now becoming an old story, and it is notoriously true that both delays in issuing certificates and loss of money frequently occur. Our Herd Book, that used to be a benefit and an honor to our country, has dwindled down through sheer carelessness and neglect to be pointed at by foreigners as a fraud. Mr. R. L. Denison, who well understands the conduct of such a book, and who compiled our first volumes in a highly creditable manner, would no doubt be still willing to carry on the work if the Association would permit it. The fees at present charged would be ample to repay Mr. Denison for such work. But to me it appears monstrous that the Association should have control at all over this matter; it rightly belongs to the breeders, whose money pays for the work and whose voice is not heard or consulted at all by this corrupt Association. At a thoroughbred live stock sale last fall I saw several animals that had, like the Scotch lass, "a lang pedigree," but were undoubtedly only possessed of two crosses! Is it any wonder, then, that our Herd Book is becoming a disgrace?

If nothing is done in the meantime to remedy this evil, let us have a rousing meeting of stock breeders in London next September, at the time of the holding of the Provincial Exhibition.

LAHRAX, Goderich, Ont.

BUCKWHEAT.

SIR,—Please give us your opinion on the comparative value of buckwheat to other coarse grains for stall feeding purposes. What should be the proportion of it when ground with oats? A reply will much oblige.

R. G., March P. O., Ont.

[Buckwheat is not at all of equal value for stall feeding to other coarse grains. Corn, oats and rye are much superior to it. The grain is chiefly used for poultry feeding, and when mixed with corn is said to be excellent for swine. It makes a fair nutritious flour well known through North America in the hot breakfast cakes. In some parts of Europe it is mixed with flour and made into bread. We have had no experience of its being ground with oats for feeding. Its greatest value is its adaptability as a crop on poor rough soils, unsuited for other crops, and its being used at a green manure, being ploughed under to enrich a wornout soil.]

EXHIBITIONS—A LADY'S OPINION.

SIR,—I was reading the piece in your paper about trying to put down Township Exhibitions. I hope they will not do such a foolish thing. I think it is a help to the country. I am a woman, and therefore take a woman's view of the subject. We are all trying to make everything superior this year to what we had last year for the show. Socks and mittens, mufflers, hats, mats and everything belonging to a house. We see different ways of doing everything, and if another woman takes the prize from us on anything, we find out how she did it, and we make better next time; and if we cannot get a prize we have something superior to what we had before, so you see it improves the country more a great deal than any country show can, and I think what improves the house ought to have some consideration.

Kinmount, M. C.

Turkey Rearing.

["A Constant Reader" asks a dozen questions regarding turkey rearing; he wishes to go into the business on a large scale; would like to rear a thousand annually, and not knowing much about the business wishes to glean some knowledge on the subject. Before going into details we quote from the London Field the following:—"The idea of rearing poultry in very large numbers has a great attraction for persons who have had but little practical experience in poultry breeding, and, in consequence, every few years some project is started for the establishment of a poultry farm. A few years since a Mr. Cantelo started a poultry establishment near Chiswick, and, although he had the advantage of great experience and one of the best artificial incubators ever designed, the whole concern came to an untimely end. The Americans, who are our equals in poultry breeding, have tried the plan repeatedly and each time it has failed, and not long since it was tried in connection with the Astor Hotel, and the usual termination ensued. One reason that is known to us is, that where large numbers of fowls are kept together the place becomes tainted with decaying manure and disease and failure is sure to follow."

Our correspondent asks, "How many turkeys do I require to lay eggs to hatch out a thousand young turkeys?" This will depend a great deal on the time you occupy for incubation, or how late in the season you would sit the eggs for that purpose. A good hen turkey, if well fed and attended, will average about fifty eggs. You had better sit twice the number of eggs that you wish to raise. If you are successful in rearing 50 per cent. of eggs set you will do well. 2. The bronze variety is the best. 3. One cock with ten hens is the proper proportion. 4. Large coops are best to sit in; the nest should be on the ground floor with some chaff or cut straw beneath the eggs. 5. Houses may be made of double boarded frame, well matched, and may be filled between the boards or not; but must be well ventilated from the top so that no direct draft may come on the fowls at any time; one square yard of house room to each bird is the required size. 6. It would injure their health to run together in large numbers. 7. About April is the time they may be expected to lay. 8. See June number, 1880, of FARMER'S ADVOCATE for cut of house and chicken coup. 9. When first hatched the feed should be eggs beaten up with milk, of equal quantities, and baked into custard; this alternated with crumbed bread and milk, to which oatmeal is added in a gradually increasing proportion; quite as important as any part of the diet of young turkeys is the supply of green food, such as nettles, lettuce, onions and dandelion, of which they seem to be very fond. The most critical time of rearing the young is just when they are shooting the red. At this time the quantity and quality of their food must be increased and rendered more nutritious by adding corn meal cooked, or bruised hemp seed, and their yards kept scrupulously clean. 10. The best time to market turkeys is at Christmas. 11. The average price per pound, one year with another, is about ten cents in Toronto, which is the best market we have in Ontario—this is for dressed turkeys.]

CANADIAN CANE SUGAR.

SIR,—We have been thinking of making our own syrup from Amber Cane, and wish to know if it has been successfully manufactured in any part of Ontario. It has been made successfully, I believe, in some part of the States; but the question for us is, might we undertake it in Canada with a fair prospect of success? Could you report progress from any manufactory in Ontario?

X. Y., Wallaceburg, P. O.

[The Cane Sugar industry has not had long trial in Canada as yet. The report from Tilsonburg, which we here give, is favorable:—"The Tilsonburg factory company started with \$8,000 capital, increasing it in a short time to \$12,000, and are now raising it to \$25,000. The seed cost them \$12 a bushel. They themselves leased and planted 37 acres, selling balance of seed to the farmers. The cost of cultivation, harvesting and delivery, including rental, \$5 an acre, is estimated at \$2 per ton. The yield averaged 14 tons of cane per acre. The company paid the farmers \$3 per ton for the cane delivered, the growers retaining the seed and fodder at the farms. The factory building cost \$3,000, the mill \$1,000, the other machinery, &c., \$4,800, tanks, fitting, &c., \$1,000, making a total

of \$9,800, or in round figures \$10,000. The capacity of the factory is 60 tons of cane every 24 hours, and the yield per ton of cane is an average of 12 imperial gallons of syrup on 100 pounds of sugar. Estimating for the farmers' benefit the profit of an acre of ground planted with cane, and an acre planted with corn, the following figures were produced and corroborated by Messrs. H. Goodwillie and C. H. Brown:

CANE PER ACRE.	
10 tons at \$3.....	\$30 00
15 bushels of seed at 60cts.....	9 00
Half ton of fodder.....	4 00
	\$43 00
CORN PER ACRE.	
80 bushels of corn at 25cts.....	\$20 00
Stalks per acre.....	6 00
	\$26 00

Leaving a balance in favor of the cane of \$17 per acre. The labor is estimated as equal, with the exception of the teaming being a little heavier in getting cane to the mill.]

Honest Milk.

Much has been said on the above subject by Mr. Clark and others, but I have often wondered if farmers are all dishonest, as so much has been laid at the door of the farmer, of which I do not believe that one-half is true. I have no doubt that many farmers have done things that ought not to have been done in skimming and watering milk, and we must feel hurt on account of such men belonging to our profession. We will, for the sake of argument, admit such. Now, there is a law by which the guilty party may be brought to justice and made to pay the penalty of their misdeeds, but I want to know if there should not be honest cheese makers and honest cheese buyers, which is just as important as honest farmers. I do think that if the matter was taken up by the farmers much would be found that needs mending. I was once one of a Committee whose duty it was to look after a cheese maker, who had been found out doing what was nothing more nor less than robbing the man of two cows and the man of twenty-five cows alike, until found out, and it was done in this way:—A thin piece of zinc was placed under the balance of the can, which drew 6 pounds at every draft, so that the man of two cows lost 72 pounds per week; the man of 25 the same—72 pounds. The man of two cows lost twelve times as much as the other from his week's milk, but the 25-cow man obtained the benefit in the cheese when the rates were made up.

What advantage was this to the cheese-maker? It was this:—He made more cheese from the same amount of milk, so that he stood higher in the estimation of the directors and other patrons, but, in fact, it was a fraud of the worst kind, as it was taking from the small patron and giving to the larger. Now, is this right? Should not such work be stopped. I would punish parties found guilty of such a crime as the law requires, for we should have honesty in all the branches of trade, for confidence is the ground of success in every business. As to buying cheese, every one in that business should make his word as good as gold, not to buy at say 13 cents, and after two months come and say, "if you will take 12½ cents I'll take your cheese, if not I will throw it up, and the farmer must suffer; but they will see that we give them the cheese." Even should we be able to get more for our cheese we cannot back out, and I think all such ought to be compelled to make a deposit of ten per cent on every lot, and be compelled to take it at the time named in the sale. Then the farmer would have his cash either to bank or to pay, which ever would suit him best. The buyers have kept lots that were sold long before the close of the season until late in February, and the farmers lost three months interest, as well as expense of keeping the same.

W. W. F., Ingersoll, Ont.

WILD POTATOES.

SIR,—I noticed in your last issue a letter on Potatoes, in which reference is made to the freedom from disease of these tubers, as they are found wild in South America, particularly in the Island of Chiloe in the South. Of this I cannot say positively, but I am positive that about Valparaiso, where I have dug them growing wild, there was almost as much rot as in common we find here.

J. D. M., Pictou, N. S.

THE TILE DRAINAGE ACT.

SIR,—Would you please give a synopsis of the Government Tile and Drainage Act (the provisions of which appear to be but little understood), as quite a number in this vicinity are anxious to give it a trial if at all favorable.

CANADIAN, Chatham P. O., Ont.

[41 Vict. Cap. 9, 1878. Tile Drainage Fund of \$200,000 established. Township Municipalities may pass by-laws for borrowing not less than \$2,000, nor more than \$10,000 for Tile Drainage. Debentures to be at 20 years, and \$3 to be paid yearly for each \$100, to pay interest and sinking fund, Government to purchase debentures to amount of fund. An owner of land in the township may borrow of the Council for tile drainage 75 per cent. of the estimated cost of the drainage, loan to be for 20 years, in sums of one or more hundred dollars; no loan to be made to member of the Council. Not more than \$1,000 to be lent to one person, and loan to be greater than will require a rate of 3 cents in the \$ for all purposes. Applications to borrow money to be considered in the order in which they are received. Inspector to be employed by the Municipality, his expenses to be paid out of the fund. \$8, per each \$100 borrowed, to be collected by the Council from the borrower for 20 years. Borrower may pay off his debt by paying the amount borrowed, less the sinking fund collected with interest at 5 per cent, these payments to be transmitted to the Provincial Treasurer. Township Treasurer to remit annually the amount payable in such par; if delay over one month, interest at 7 per cent. to be paid on arrears. By 42 Vict. Cap. 8, 1879, the Act is extended to stone and timber drainage. By 43 Vict. Cap. 6, 1880, the Act is extended to towns and villages.]

FARM LABORERS.

SIR,—In the March number of the FARMER'S ADVOCATE, I saw an account of farm hands being allowed in the farmer's family. It is true some farm hands may not be fit to mix with farmers' children. In Lincolnshire and Yorkshire, in England, farm boys do not sit at the same table with the farmer and their family. But those farmers supply their hired hands with strong food, viz.: Beef, bacon, mutton, cheese, bread, beer and milk, seldom tea or coffee; also custards, cheese, cakes, and good fruit pies (no dainties). Farmers in America supply the men with too many dainties. From observation, I have found that the farm boys in Europe are stronger and healthier than those I have seen in Canada. Farm boys in England can carry four bushels of wheat at 18 years of age. Now, in regard to the farm hands and farmers, I would draw farmers' attention to two books—first, "The Sons of the Soil," a poem, by Mrs. Ellis, giving a description of farm-house life in England; second, "Life of Charles Richardson," the "Peasant Preacher," or, "Lincolnshire Thresher." Canadian farmers often complain that they cannot get good steady hands. One reason is farmers' hours are too long, and men prefer public works in towns. There are in England good farm hands who often work twenty years for one farmer. Yours,

LINCOLNSIDE IRONSIDE.

P. E. I. FARMERS' MEETING.

SIR,—Will you kindly give place in the FARMER'S ADVOCATE for a brief notice of our farmers' meeting in the Victoria Club-room, on the 8th of March. We met according to previous arrangement, for the discussion of Agricultural subjects; Jas. Dunbar, Esq., was appointed chairman, and Artemus Howard, Secretary. The meeting was well attended. The manufacture of our products into starch, beef, mutton, butter, cheese, &c., was considered; and cheap and good facilities for shipments to English or foreign markets. It was unanimously resolved that a starch factory in our vicinity would prove beneficial to the farmers; and that efforts be made to induce capitalists to operate a factory, provided a suitable site can be obtained. And that as in the opinion of this meeting, with proper facilities for direct shipment to the English markets, stock-raising, creameries, and cheese factories are the most profitable lines of farming in this country; that we pledge ourselves to give every reasonable encouragement to any party willing to establish cheese or butter factories in our midst. An adjourned meeting will be held on the 15th, when it is expected a joint-stock company will be formed, and a committee appointed to prepare an Act of Incorporation.

A. H., Victoria, Crapand, P. E. I.

Some Items From New Brunswick.

SIR,—As a set-off to your correspondent, H. P. Valeville, King's County, N. B., who says, in your February number, "We have to pay a tax of 50 cents on every barrel of flour we consume, which alone benefits Ontario. I think they should be satisfied with that, and allow us to import meal to fatten our cattle and hogs. There were five pounds of meal imported before the duty was imposed to one now. We could then fatten our hogs and feed three head of cattle for the English market for one now."

I clip the following from the Moncton Times:—Harvey, Albert County, March 7.—An Albert special took a fine lot of valuable cattle from Harvey and Hopewell this morning, which we understand was purchased by Messrs. McDonald and McGirr for the English market, and will be shipped at Halifax. It is seldom so fine a drove leaves Albert.

Messrs. Smith Bros., of Harvey, shipped fifty head, which averaged upwards of 1,500 lbs. each, one yoke of yearlings weighing 1,450 and 1,400 each; and we understand they will have another fine lot ready in a few days. Messrs. Turner Bros., also of Harvey, furnished six head, and Mr. Thomas McClelan some ten head.

This shipment shows that Albert possesses the right men, soil and climate, to produce as fine cattle as can be found anywhere. Although Messrs. Smith, Turner, McClelan and other stock raisers have only recently turned attention to the English market, and have had difficulties to meet and have probably been compelled to accept lower prices that prevail at Boston and other American ports, it is understood the business is profitable and satisfactory, and we believe that more attention will be given to preparing stock for the English market than heretofore.

Albert is well situated for the cattle trade, and the recent arrangement by the Dominion Government for the fortnightly line from Halifax and St. John must benefit the Country immensely.

We have not heard what prices have been obtained for this fine lot of cattle, but they are understood to be much lower than similar cattle for the English market are selling for at the seaport cities of the United States. Prices of cattle for shipment to Europe are quoted at \$6 to \$9.38½ per hundred lbs., live weight, and we cannot understand why cattle should not be worth as much at the farmer's barns in Hopewell or Harvey, as at Boston, seeing the expense of carrying to Halifax is small, and should be covered by difference of freight, besides the advantage of a shorter sea voyage, saving in insurance, etc. We think cattle should be worth more here than at Boston, New York, or other seaports.

The Messrs. Smith received their feed for fattening this drove on their own extensive farm, and didn't hanker after Yankee meal to put the beef on.

"A. D., Sussex, N. B.," another correspondent in the February No., seems to have had a bad attack of "blues," because we don't "manufacture for the union." Well, he can't be posted as to what is going on in the Maritime Provinces. He should not expect to see a great manufacturing concern in every village; but we have some. The Moncton sugar refinery has been in full operation since last fall. Its sugar has been sent to Montreal, Winnipeg, Halifax, St. John, &c., &c. Cost of the concern about \$200,000. The Halifax sugar refinery, costing more money, is just about starting. Parks' cotton factory has grown within the last year to be a big thing. A large brick building, near the I. C. R. depot at St. John, has just been completed for the St. John Nut and Bolt Company. The cloth of the Oxford mills, in Nova Scotia, is known and worn by every one. The woollen factories of Golden Grove and Mispeck, the foundries of Moncton and Sackville and Amherst are all at work. Fredercton and Woodstock have their manufactories. The Hampton match factory has for years been indispensable to smokers. The Penobscus Paper Mills must have been heard of by "A. D.," if not seen. And there are plenty of others that may be just now struggling along in their "day of small things," but we must all creep before we walk. When "A. D." again "attempts anything for publication" I hope the days will have lengthened and the strengthening sun-light will make him look more hopefully on things around him.

For the especial benefit of "G. W. Stamford, Ont.," I clip the following from to-day's paper:—

ROBINS.—A gentleman living a few miles out of town informs the writer that for the past week a

number of robins have been singing on the evergreens near his residence. He says they came after the fine weather set in, and flit about and sing as if it were May instead of March. He never before knew robins to come so early, he says.

The town of Chatham is six miles from the I. C. R., and is reached by the Chatham branch.

His "head is level" about New Brunswick, and when he makes that visit perhaps he will attend the Centennial celebration, to be held in St. John in 1883. He will find that ocular demonstration will only confirm his present views.

"J. S. Kingston, Ont.," who wants to know "where to buy a farm," and has \$20,000 in cash, will pardon me for advising him to come to New Brunswick before settling himself, and look about him during this next three or four months. With his money he can buy a farm here and live better than an English landlord at home.

NEW BRUNSWICKER.

WIRE GRASS.

SIR,—Please inform me how I could kill out Wire Grass on a piece of ground. Have tried Timothy and Clover on seeding, but it comes in Wire Grass. Some call it White Grass. It is a White Grass after it gets old, just like wire.

G. S. I., Southampton, Brunswick.

[Of all the weeds on the farm Couch Grass is looked upon as one of the worst, and to the family of Couch Grass Wire Grass belongs. It can be extirpated with much labor by frequent fallowing. Some people speak more favorably of it. In our Washington contribution of this month, from a trustworthy and clever writer, you will see a good word spoken of Wire Grass.]

HOW TO SAVE GIRDLED TREES.

SIR,—When I find any of my apple trees girdled by mice, I take a cion, much like one I would use to graft with. I cut this long enough to reach across the girdled place, grafting each end of the cion into the bark on either side above and below the girdle, thus joining the bark. I then apply grafting wax and bind the part up with cotton cloth. The trees I have thus treated have done well. T. S. A., Malagash, N. S.

[We have tried the above many years ago, but find in the majority of cases it is much better to dig the girdled tree up and plant another in its place.]

GRAFTING WAX.

SIR,—I wish to graft some fruit trees this spring. Can you tell me how to make grafting wax? S. H., Bowmanville, Ont.

[The Michigan Pomological Society recommends the following:—Take 1 pound each of resin and tallow and heat them together; remove from stove after heating, and let cool until a scum forms; then add one teaspoonful spirits of turpentine, replace on stove and add 7 oz. of a mixture of two parts of alcohol and one part water, stirring briskly; take care the alcohol does not inflame, as it will if too hot; stir until of the consistency of honey; keep close and use with a brush. If after keeping it gets hard, use more turpentine and alcohol and water. It soon becomes hard and unchanging.]

Several communications are unavoidably left over, and will appear next month.

Ensilage for Winter Milk.

Ensilage is now attracting a great deal of attention among the farmers of the United States, and various are the views held concerning this process of preserving food. Below we give the testimony of some who have tried this method, as reported in the National Live Stock Journal:—

QUALITY OF ENSILAGE MILK.

The question that now most interests dairymen, is, will it make fine-flavored milk? We are able to lay some important testimony upon this point before our readers.

Whitman & Burrell, of Herkimer County, N. Y., opened one of their silos of corn ensilage about the first of November, and fed some 30 cows 60 lbs. each per day, and report that the cows ate it with great relish, and the flavor of the butter is good. This ensilage, when taken from the silo, was of a light brown color, but on exposure to the air for an hour or two recovered its green hue.

Mr. Wm. H. Turner, of Orange County, N. Y., opened his silo in November, and after feeding 86 milch cows upon it for three weeks, reports that the milk is good, and stands the remarkably strict test applied by the milk condensing company, to whom the milk is sold. Milk condensing companies are more particular about the quality of milk used than are creameries. This may be considered the strictest test yet applied.

James S. Chaffee, in the same town, has been feeding some 35 cows upon corn ensilage from his silo, and delivered his milk to the same condensing company.

Jacob Pugsley, in another part of the same county, has also been feeding 30 cows from silo for some time, and making butter, and thinks the milk and butter are of good quality.

A. B. Avery, of Onondaga County, N. Y., opened his silo, containing about 300 tons, on the 3rd of December, and has been feeding over 80 milch cows. The milk being sold in the city undergoes a rigid inspection, and no fault is found with it.

During the present winter, the test of quality of milk produced by ensilage will be so thorough that a reliable verdict can be given in the spring. It would seem, from the cases here given, that the verdict is likely to be favorable to this method of preserving green food in silo for winter production of milk; and taking this to be the final decision, let us consider its effect upon the production of winter butter.

Can ensilage take the place of summer pasturage as a complete ration for milk?

If only corn ensilage is to be used, the answer must be in the negative. Corn does not contain the elements for the production of milk in the right proportion. But clover, timothy, blue grass, orchard grass, red top, Hungarian grass, all the millets, peas and oats, winter rye, and every green crop raised may be ensilaged as well as corn. The skillful combiner of foods, then, may preserve in silo as complete a ration, in every respect, as can be had in the best pasture. If this be conceded, then the question arises, Will the

COST OF ENSILAGE

permit its general use for winter feeding? In answer to this, we have reports from Whitman & Burrell, B. A. Avery, Dr. Tanner, and many others, giving the cost of corn ensilage at from 80c to \$2 per ton. It appears probable that corn can be raised complete, ready for the silo, at 60c per ton, including the interest upon the land—that is, an acre of 25 tons can be so raised for \$15, and can be put in silo, everything complete for its preservation, for \$10, or 40c per ton—making the whole cost of corn ensilage \$1 per ton in silo. Mr. Goffart estimates its cost, in France, at 80c per gross ton.

Then, as to the cost of grass crops when ensilaged, it will cost no more to put them in silo than to cure and put them in the barn. And if the dairyman can afford to cut, cure, and store the grass crop in the barn, he can afford to put it in silo, if it is as valuable in the succulent as in the dry state—and every farmer believes it to be worth at least 20 per cent. more in the succulent condition. We may estimate the cost of grass ensilage about as follows:—If a mixture of grasses in the meadow would produce, in well-cured hay, one and a half tons per acre, it would give about six tons of grass ensilage; and if we estimate this at \$12 per acre, or \$2 per ton of ensilage, we may then get at the cost of feeding a good variety of ensilage. Suppose a cow in milk consumes 60 lbs. of corn ensilage and 40 lbs. of grass ensilage per day; this would cost, for the corn, 3c, and for the grass 4c; making 7c per day for a complete milk ration for a cow in winter, or 35c per week. Let us ask our readers if they can pasture a large-eating cow for less than 35c per week in summer? If our premises are correct, the conclusion must be that a wise selection of green foods for ensilage will give us butter as cheap in winter as it can be produced in summer.

We see it reported that at the late poultry show at Birmingham, England, some of the best birds on exhibition were sold at prices that remind us of the days when our own poultry breeders were badly affected with what was called the "Shanghai fever." A black and red game cock went off at \$500, and several other birds were sold at from \$100 to \$150 each, which must have proved very remunerative prices. The highest price was paid for game birds—a proof that cock fighting is still popular among the English gentry.



The Family Circle.

"Home, Sweet Home."

THE STORY.

Owing to great pressure on our columns this month, the story, "Maud Rochester's Valentine," and other interesting and instructive matter, is omitted. The story will be concluded in the May number.

More Strength to Our Elbow.

A friend who has devoted a great deal of time and study to Ornithology, or the study of birds, has kindly offered to furnish us with descriptions and accounts of the habits, utility and general information about our native birds. Believing the information will or should be hailed with pleasure and delight by our readers, and believing that both young and old will be better instructed and amused by such information, we with pleasure introduce the first article in the Home Department of this issue. We should try and make ourselves better acquainted with all our surroundings, both in the animal and vegetable kingdoms.

Notes on Ornithology.

BY ORNIS.

With the returning spring nearly all of us, especially those living in the country, become possessed with a desire to engage more or less in the pursuit of some branch of natural history. Many out of mere force of habit will smother these inclinations, and only bury themselves deeper in the ordinary routine of life. With these we will have nothing to do; but to those who, yielding obedience to their special impulse, begin the study of birds and their eggs, we address ourselves.

This department appears peculiarly attractive, because it brings us into contact with the only high natural order, whose wild representatives are found in abundance with us. There is also such an endless variety of instinct in the various groups that the study of this alone will be sufficiently interesting to the close observer to keep him fully occupied. It is not our purpose, however, to enter into such minute detail as this, but merely to take a superficial glance at some of our common birds.

One species most likely to be noticed in a trip through the country just now is the Red-shouldered Hawk, *Buteo lineatus*. This bird, or its rarer congener, the Red-tailed Hawk, *Buteo borealis*, may be seen or heard in almost any woods a person can enter. Its festive season is at hand, for the smaller birds are beginning to come in swarms, and will continue coming till the middle of May. Many of the hawks, having just come from the south, will "find business rather dull" for a week or two, but those who have braved the winter's storms to stay with us are, no doubt, already rejoicing in the luxuriance of fodder, which has arrived even at this early date. This species (Red-shouldered) begins to build about the middle of April, and generally places the nest in one of the central crotches of a high tree. It is a bulky affair, often as much as three feet in greatest diameter and proportionately thick; at a distance it much resembles that of the crow, *Corvus americanus*, for which it may be easily mistaken. The eggs, three or four in number, are white, with spots and blotches of reddish brown and light purple.

The only other hawk which is really common with us is the Sparrow Hawk, *Tinnunculus sparverius*. It is, perhaps, better known than the preceding species, and certainly is more appreciated, because the two former, together with the Rough-winged, Coopers, Sharp-shinned and Pigeon

Hawk, are grouped under the common appellation of Chicken Hawk, and are regarded by the farmer with feelings the reverse of friendly, on account of their depredations in the poultry yard. Many a farmer, hearing a noise among the hens, has rushed out just in time to see the hated Hen Hawk bearing away the fattest in the yard, or perhaps a tender young pullet. No such crime, however, can be urged against the pretty little species now under consideration. He confines himself to small birds and insects, a decided preference, among the latter, being given to grasshoppers, from which fact we should find him one of our best friends in the event of a grasshopper raid on Ontario. But even with this good trait in his character he cannot be called beneficial, on account of his great propensity to destroy small birds. The nest is built, or rather, the eggs are laid about the middle of May, the spot chosen being occasionally an old crow's nest; but, as a rule, four or five eggs are laid in a deserted woodpecker's hole. The ground color is light buff, covered so thickly with minute reddish dots as to be almost entirely concealed.

Among the small birds already here, no word of ours is necessary to commend the Bluebird, *Sialia sialis*, to the good will of our farmers. The first to arrive in spring and one of the last to leave in the fall, this bird is a universal favorite. Everyone knows its pleasant warbling note and has seen the nest in a fence post or woodpecker's hole containing three to six light blue eggs. Occasionally their nests have been found with pure-white eggs, but this is an uncommon and accidental occurrence.

Equally common, though less known, is the Song Sparrow, *Melospiza melodia*. We say "less known" advisedly, because under the general name Gray Bird, or Ground Bird, are included four species of common sparrows, besides rarer ones.

The common kinds are the Chipping Sparrow, *Spizella socialis*; Song Sparrow, *Melospiza melodia*; Grass Finch, *Poocetes gramineus*, and Savannah Sparrow, *Passerculus savanna*, and just here it may not be out of place to give a few characters by which the beginner may separate these species.*

The Chipping Sparrow may easily be known by the chestnut of the crown and the absence of spots on the ash breast. The Grass Finch has the shoulders of the wings chestnut and the breast is rather sparingly spotted with feebly-outlined dark gray spots. The breast of the Song Sparrow is more thickly spotted, with one large, dark spot in the centre, the other spots also being sharply defined and much darker than in the Grass Finch. The prevailing color on the back, too, is a dark, reddish-brown, contrasting strongly with the sober gray of that species. The Savannah, however, is more difficult of identification than either of these. The bill is more slender and the spots are not many, but are fully as distinct as those of the Song Sparrow, while of the color of those of the Grass Finch. But the most distinctive mark is a small, yellow line running from the base of the bill to over the eye. The eggs of the last three resemble each other even more closely than do the birds; in fact it is impossible to do more than guess at them, varying, as they do, from buff, with reddish-brown spots confluent all over the egg, to white, with scattered spots, blotches and lines of reddish-brown, purple and lavender. No one but knows the little nest of roots with a horse-hair lining containing four little blue eggs spotted with very dark brown or black at the large end. This is the nest of the chipping sparrow.

These four birds are all very common, and with the aid of a little study one can easily tell them apart, and the appreciative mind will be amply repaid for any trouble by the pleasure which will be found even in the study of them.

* We will be glad to name any birds, and, as far as in our power, nests and eggs for our readers, and also would like anyone who has observed anything remarkable in ornithology to send us word. Specimens may be left at this office for identification.

The minister stopped at a house last week and sought to improve the time by giving an eight-year-old an instructive lesson in morality. "My boy," said the minister, "I have lived forty-five years and have never used tobacco in any form, nor told a lie, nor uttered an oath, nor played truant, nor ——" "Gimminy crickets," interrupted the lad, "yer ain't had any fun at all, have ye?"

Minnie May's Department.

MY DEAR NIECES —

"Suffer not trifles to win thy love."

In touching upon the theme of marriage, I would do it reverently, as it is no trifling subject. You, my dear girls, are contemplating this relation as a possible or settled matter, and if I could induce any of you look to more earnestly upon this life union before you take the step which is to baptize you with blessings and joy, or wring your heart with anguish I should indeed be happy. The young are apt to regard marriage as the ante-chamber of heaven. That it is designed to increase the good and happiness of our race is indeed true.

Children should not marry. A young woman cannot be considered in any sense prepared for this union under twenty-one; twenty-five is better; she is not physically or mentally developed before this. Girls of sixteen and eighteen cannot have these. They cannot tell what they really like or dislike, who and what will meet their necessities, until matured themselves. You cannot over-estimate the importance of a thorough knowledge of the man whom you design to marry; uprightness, fixedness of principle, an unselfish and generous disposition and good business abilities should be regarded as indispensable. If a young man is a good son and brother, he will make a good husband, provided you do your part. Do not be won by trifles, a handsome face; fine figure and noble bearing may be desired, but they constitute a small part of what you really need. They may be but the gift which hides some terrible deformity, and which by-and-by will cause you emotions of disgust, terrible grief of constant unrest. It is not wise to aspire far above your present station in life, as this would give rise to solicitude, lest you should fail to adapt yourself to your changed circumstances. If you cannot think alike be resolved to yield, rather than to differ. Be forbearing and forgiving if need be. I would also suggest that those graces and charms which won a lover's heart be still kept for the husband. Never consider it too much trouble to dress tastefully and in your best for your husband's eye. Give him freely of those graceful attentions and pleasant surprises which make him happy, if you expect a continuance of lover-like attentions from him. Hide all the disagreeables in person, toilet and home, and keep the best for love.

MINNIE MAY.

Answers to Enquirers.

GEO. MCCREEDY—See answer to W. H. Gould.

W. H. GOULD—The answer must account any all puzzles.

KATIE MARIE—1st. Your handwriting is very good. 2nd. Yes, hope to hear from you again.

FREDDIE FLEWELLING.—Will give you the history of St. Patrick some other time when we have room. In a whisper, if Minnie May were not so selfish it might go in this month's paper.

ALEX. GRANT—When letters contain matter only intended for publication, if not over-weight and unsealed, a one-cent stamp is all that you need put on. Such letters must not contain private information.

MATTIE V. FOWLE—1st. Bathe the head frequently in cold spring water, and wipe dry with a hard towel. 2. The juice of a lemon mixed with an ounce of powdered borax, applied two or three times a week.

IDA—1. Confide in your mother. Do not deceive her in anything, and, above all, by engaging in a clandestine correspondence. 2. You must be guided by the gentleman's tastes and habit in the selection of a present. A pair of slippers worked by yourself, and nicely made up, a handsome cigar case, a carefully chosen book, or a small case for writing materials would, any of them, no doubt being acceptable, and can be obtained for the sum you name.

EDITH L. CREGO—See October No. of ADVOCATE, 1879, for the "Creed of the Bells."

DAISY M.—The application to the skin daily of a small quantity of glycerine diluted with rose water cannot, as a rule, do any harm. There are some persons, however, whose skins cannot tolerate the use of glycerine, the most diluted quantity causing irritation and smarting. For such persons oatmeal paste made with warm water is recommended by some of the best authorities in matters of the toilet. The paste should be copiously rubbed into the skin, permitted to remain twenty or thirty minutes or more, and then washed off with tepid water.

JESSIE—Tight boots are very injurious, producing corns and bunions, and also deranging the nervous system, and producing, in consequence, headache, neuralgia, and nervous dyspepsia. To be beautiful, a person must not only conform to the laws of physical health, and, by proper exercise, develop the body to the highest degree of symmetry and grace attainable, but must also cultivate the mind and affections to a similar point. Do not entangle yourself with a long matrimonial engagement. A man who is slow to marry is apt to be slow in other important concerns of life.

E. W. D.—I want to raise some young canaries, what is the best way to do it? **ANS.**—Keep the pair in a cage; the pairing season is now beginning. Feed the birds liberally on hard boiled eggs rubbed through a coarse grater and mixed with stale bread crumbs. Two teaspoonfuls is enough for a pair for one day. Give a little maw seed, hempseed or mill seed in addition. After the birds have paired a nest is to be provided. This should be made of a piece of woollen felt cut and sown to fit the inside of a tea cup. This may be put into a small tin cup and packed around with cotton. Or the birds will make their own nests if provided with some dry moss and torn wadding. When the hen begins to build the nest some brown sugar is added to the food and some green mustard sprouted in a plate of moist sand in a kitchen window. As each egg is laid it should be taken away until there are three, when they should be returned and the hen will set.

RECIPES.

TO CLEAN THE TEA-POT.

If the inside of your tea-pot is black from long use, fill it with water, throw in a small piece of sal-soda. Set the pot on the stove and let it boil from half an hour to an hour. It will clean as bright as a new dollar, and costs no work.

CHOCOLATE CARAMELS.

Take of grated chocolate, milk, molasses, and sugar each one cupful, and a piece of butter the size of an egg; boil until it will harden when dropped into cold water; add vanilla; put in a buttered pan, and before it cools mark off in square blocks.—FANNY.

YEAST.

Take one coffee cup of grated potato; pour it in a pan, and put in it two and a half pints of boiling water; let it boil, and when done put in one cupful of sugar; one-half cupful of salt; when nearly cold put in a yeast-cake, and let it rise.—FANNY.

PURE BEEF-TEA WITHOUT WATER.

Fill a quart self-sealing glass can with beef cut into very small pieces, close it, and place the jar in a kettle of warm water. Let the water come to a boil gradually, so that the jar may not break, and let it remain on the range about three hours; then strain it off and you will have a large cup of the pure juice of the beef. Then put in a little salt and cayenne pepper.—W. C. W.

EARACHE.

"In the course of practice you will often be called upon to attend a case of earache. This means, pathologically speaking, acute inflammation of the membrana tympani. Now, in such a case you may quickly subdue the inflammation, relieve the patient from the excruciating pain he is suffering, and save him, perhaps, from subsequent confirmed deafness. The treatment from which such a very desirable result may be obtained is similar to that which you will find so beneficial in analogous cases of eye disease; viz., leeches behind the ear, hydrarg. c. creta and balladonna powders, with warm fomentations."—Prof. Wharton Jones.

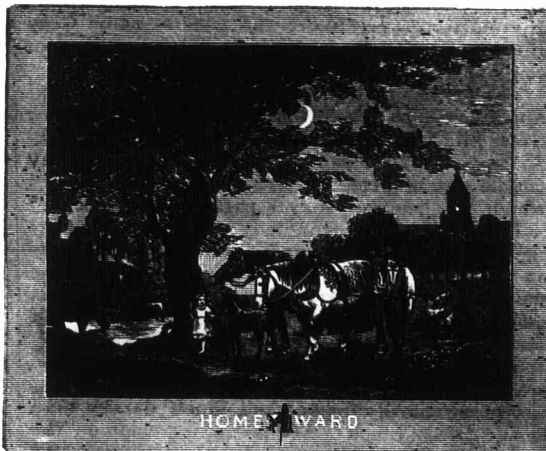
The Curfew Tolls the Knell of Parting Day.

GRAY'S ELEGY.

"The curfew tolls the knell of parting day,
The lowing herd winds slowly o'er the lea;
The ploughman homeward plods his weary way,
And leaves the world to darkness and to me."
"Now fades the glimmering landscape on the sight."

"The curfew tolls the knell of parting day," from the church tower bathed in sunset's fading light. Passing through and beyond the silvery stream, "The lowing herd winds slowly o'er the lea," towards the humble cottage in the misty distance.

"The ploughman homeward plods his weary way," and the tired horses look eagerly towards their home and its rest. A boy and his dog are eagerly hunting in the mellow earth. The little fairy-girl imparts a fascinating life and beauty to the picture. In one hand she holds wild flowers, in the other grass for "my colt." The new moon is seen through the branches of a large tree and grandly shades the enchanting scene. Seated under a tree in the church-yard, around which night begins to trail her dusky robes, the poet writes, "And leaves the world to darkness and to me," and "Now fades the glimmering landscape on the sight." Gray's elegy, in its rich and harmonious colorings of the threads of life, classical composition and polished rhythm, has charmed the world. In this illustration of the first lines of that grandly beautiful "Song of Home and the Affections," its pure and exalting sentiment finds eloquent expression.



Clothes Moths.

Of all house-keeping pests these are perhaps the most trying. The moth is such a ghost-like creature, flitting like a delicate shadow "so near and yet so far"—now almost within one's grasp, provoking such wild passes in the air, followed by a violent bringing together of empty palms. Stern, unsparing enemies to vanity and rich attire are these silver-winged scourges, and madame's velvet and sable are their favorite points of attack. The richer the garment the more they seem to enjoy it. Furniture, too, these winged iconoclasts delight to spoil, and with what dread and terror the house-keeper hears those ominous words, "The moths have got into that chair!" or "The moths are eating the curtains!" And then there is hurrying to and fro, and shaking of folds, and beating of cushions, and airing, and fumigating, and what not. The question is, How to kill them? or How to preserve fabrics from their ravages? We have tried cayenne pepper with very good results. Sprinkle it around the corners and sides of your carpets after you have taken them up and shaken and thoroughly dusted them. All furs, flannels and woolen goods should be put in a box in the spring with either camphor, cayenne pepper or benzine sprinkled upon them, and paste paper over the cracks of the box, and when you open next fall they will look and be as good as when put in.

A young lady was caressing a pretty spaniel and murmuring:—"I do love a nice dog!" "Ah!" sighed a dandy, standing near, "I would I were a dog." "Never mind," retorted the young lady, sharply, "you'll grow."

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—

Now the noisy winds are still,
April's coming up the hill;
All the Spring is in her train
Led by shining ranks of rain.
Pit, pat, patter, patter;
Sudden sun and patter, patter;
First the blue and then the shower,
Bursting bud and smiling flower,
Brooks set free with tinkling ring,
Birds too full of song to sing;
Dry old leaves astir with pride
Where the timid violets hide.
All things ready with a will—
April's coming up the hill.

That's the way your Uncle Tom feels about it, you see, and he isn't an April fool either—that is, not if he knows himself; but maybe he doesn't know. But I have several things on my mind this time to talk over with you, although I feel the awkwardness of having to do so much of the talking myself. In the first place I would like to make sure that every sizable boy in the land who sees the ADVOCATE has tried to make out the puzzles. I was very pleased to obtain answers from so many who I am proud to call my nephews and nieces, and many were all correct. Of those I shall keep a record, and see who will keep it up until December. Of course the name of all who answer one or more correctly appears in the paper. However, I feel certain there are a great many to be heard from yet. Do not mind one month being passed over; start now. You may be successful in finding the answers some months when the others fail. To the correspondents I would say, please make your letters short but interesting, and write only on one side of the paper.

UNCLE TOM.

Letters.

DEAR UNCLE TOM,—I am going to begin in real earnest to write to you now, and I will try and answer your puzzles. We like your ADVOCATE very much, and I watch for it anxiously every month. I am only 12 and am going to school, for I like to study, and, perhaps, when I am a man I may be able to write as good letters as you do. I have a dog, and am trying to teach it to draw me in a sleigh. I have also two rabbits, one black and one white. Goodbye from
Your nephew,
JACK SMITH.

DEAR UNCLE TOM,—Inclosed you will find a short story which my little brother wrote, as he said he wanted to write something for good Uncle Tom.

CHARLIE ELLIS.

THE FISHER.

Once there was a little boy who did not obey his mother and went fishing, and fell into the water. How frightened was the mother when she found out that the boy was drowned, and the father and mother began to cry, and one day a man came to comfort them, but he could not. They never found the boy.

St. Mary's, Ont., March 5th, 1881.

DEAR UNCLE TOM,—I wish to become one of your nephews and try for the prize of the ADVOCATE, because I think it a good paper. You were wishing to know how many valentines we all got. I did not get any. Perhaps one of my sisters got some. I do not think anybody considers me good-looking enough, (somebody does my sister,) though I have no freckles but an "awful big mouth," or they might think me too young, as I am only thirteen.

HARVEY WALTON.

Pleasant Grange, Pititcodiac, N. B.,
March 11th, 1881.

DEAR UNCLE TOM,—I am a small boy and not much used to writing letters, but am going to try for the prize. My ears, toes and fingers got through the cold weather untouched, although we have had some very sharp frosts here in New Brunswick. I did not get any valentines nor send any, but I received some very pretty Christmas

cards. I am not an Irish boy, therefore I do not know much about St. Patrick, but would like to know. Perhaps you will be kind enough to give us his history sometime. Hoping I have not wearied you with my long letter,
I remain, yours very truly,
FREDDIE O. LEWELING.

DEAR UNCLE TOM,—I saw your offer in the ADVOCATE of the ADVOCATE free to any one that would answer all the puzzles until December or write you a letter until the same time. Pa has taken your paper for three years, and this will be the fourth. He says that it has paid for itself. I have taken great interest in the puzzles, but I have never sent you the answer to any until now. I am only thirteen, but will be fourteen the 17th of this month. I have not room on this paper to give the answers to these puzzles, as you do not wish us to write on but one side of the paper.
Yours truly,
IDA V. CHAMBERLIN.
Newboro, Leeds County, Ont.

PUZZLES.

113—RIDDLE.

Cut off my head, how singular I act;
Cut off my tail, a plural I appear;
Cut off my head and tail—most curious fact—
Although my middle's left, there's nothing there.
What is my head cut off? A sounding sea!
What is my tail cut off? A flowing river!
Amid their foaming depths I fearless play,
Parent of softest sounds, though mute forever.

114—ENIGMA.

In little, not in grand.
In soil, not in land.
In going, not in come.
In water, not in rum.
In grain, not in hay,
The whole a beast of prey.

115—CHARADES.

1. My first is a bird, my second is used in hunting and my whole is a flower.
2. My first is an animal, my second is a covering for the hand, my whole is a flower.

116—RIDDLE.

My first is either on or under the table,
My second is a kind of corn;
My third is what misers are most fond of,
My whole is one of the United States.

KATIE MARIE.

117—CROSS-WORD ENIGMA.

In gin, not in beer,
In pin, not in gear,
In lean, not in fat,
In rug, not in mat,
In tree, not in shrub,
In rake, not in club,
In boy, not in man,
In resolve, not in can,
In me, not in you,
In seat, not in pew,
In draw, not in spike;
My whole you all like.

118—WORD-SQUARE.

1. Earth.
 2. A tree.
 3. Mid-day.
 4. Cages.
- E. REBUS.

Answers to March Puzzles.

- 108—Eagle, raven, owl, bobolink, robin.
- 109—Vulture.
- 110—Potash.
- 111—Yak, sable, ermine, ape.
- 112—Learn to labor and to wait.

Names of Those Who Sent Correct Answers to March Puzzles.

Laura S. Ripley, Robert Wilson, John Hammond, Hannah Stevens, Bella Lowry, Edith L. Crego, Percy Starr, Mattie Osborne, George McCreery, Harold E. Baknum, Manie Henderson, J. Harvey Walton, Charlie S. Husband, Bella and Mary Weir, Carrie Wallace, Charles M. French, W. G. Green, Tom McKay, Harry Imlach, Alexander Grant, Herbert Kitchen, Lottie Buttery, Clara German, Fannie L. King, Katie Marie, Mary Armstrong, Mattie V. Fowle, Charlie M. French, W. H. Gould, James Atkinson, Willie Fitch, Freddie O. Fiewelling, M. K. Aetchen, Wm. M. Adams, Almy Jay, R. Elgin Fowle, Frank Sharman, Ida L. Triller, James Dickey, Ida V. Chamberlin, Jack Smith, Arthur Gorden, Carrie Jell, Corbin Weld, Paulin Cornelis, Gertie Johnston, Jessie McKenzie, Tom Scott, Arthur Sylvester, Beatrice Owens, Ernest Cassels, Rebecca Gordon, John Kneal, Frank Dempsey, Murray Coates and Harriet Brethour.

Spring Cleaning.

'Tis morn!—On leaving home, around I glance,
All there is luxury and elegance,
The dog and cat upon the hearthrug lie,
My sweet wife kisses me and says good-by,
While servants bring my hat and coat and cane.
With so much comfort, how could man complain
'Tis noon!—as to my home I then draw near.
I hear the sound of blows. The atmosphere
Is but a stifling, blinding cloud of dust;
That 'tis from carpets beaten I mistrust,
And, horror stricken, to the house I fly.
A scene of desolation greets the eye;
The carpets up, the curtains down, fires out,
Furniture all upset and piled about;
While, back and forth, with heads in towels
bound,
With skirts hooked up a foot above the ground,
And arms all bear, fly creatures—can it be
My lovely wife and servants neat I see
Tearing about in those outrageous duds,
And stirring up this awful smell of suds,
While in their eyes there gleams a dangerous
light?
Great heavens, 'tis they! Oh, what a dreadful
sight!
The dog, once scalded, from them keeps aloof;
The cat has sought for safety on the roof.
And in the dining room, where I had thought
To find a toothsome dinner, they had got
A fiend of Afric' blood, who joys to swing
A whitewash brush and spatter everything.
But I am not forgot. My feast is spread,
Out in the woodshed on a barrel head,
One slice of bread, a plate of warmed-up beans,
Some water in a mug, a dish of greens,
Oh, banquet rich! And best of all, you see,
I've brought a fellow home to dine with me.
—Boston Post.



The "Canadian Band" will be heard in every valley during the present month. We have often been pleased while listening to the rival races also to notice that even the presence of an individual will silence a whole band. Perhaps some of you may know the name of the lively chorus you have so often heard. You may call it what you please, but certainly it is not the "Dead March in Saul." Now, John, do not throw that stone at those happy singers, it might hurt one of them. They have feelings the same as you have. What good can their pain or death do to you? You may kill all the hawks, rats, mice, snakes and foxes you choose and do good, but the frogs do you no harm, that we are sure of.

Humorous.

A recent writer advises that girls who wish to have small, prettily-shaped mouths should repeat at frequent intervals during the day, "Fanny Finch fried five floundering fish for Francis Fowler's father."

A party on a hunting excursion went up to the house of a farmer to get some milk, and experienced considerable difficulty in getting the gate open. One of the party said to the sturdy old granger:—We had a good deal of trouble getting the gate open. "Yes," responded the granger, dryly, "I fixed it up to keep hogs out."

A Vermont man in a sleeping-car was accosted by his neighbor opposite, who was also putting on his shoes, with the inquiry, "My friend, are you a rich man?" The Vermont looked astonished, but answered the pleasant-faced, tired looking gentleman with a "Yes, I'm tolerably rich." A pause occurred, and then came another question:—"How rich are you?" He answered, "About \$700,000 or \$800,000. Why?" said the old man, "if I were as rich as you say you are, and snored as loud as I know you do, I would hire a whole sleeping-car every time I travelled."

Commercial.

FARMER'S ADVOCATE OFFICE,
London, March 23, 1881.

The snow and ice are disappearing very slowly for the want of warmer weather. We have had four months of cold wintry weather and are now well on into the fifth. Every one is heartily tired of cold and wishing for warmer weather. Business the past month has been pretty good.

WHEAT

Has taken a turn upward, and holders are very sanguine about the future of the wheat deal. Already some of the Chicago and western "bulls" have commenced writing up crop reports about the bad prospects ahead. The following is a specimen:

The growing wheat in the Southern counties of Indiana is stated by letters to Chicago newspapers as promising very poorly. We cannot vouch for the truth of it, but a gentleman from Southern Indiana informed the writer this week, that wheat which had looked very badly and which the owners expected to plow up, was now growing and promised a crop. Take your choice.

A letter from Leavenworth, Kas., says that they have not yet begun work in the fields in that section.

A Chicago newspaper says: "Advices from Edgar and Crawford counties, in this State, say the wheat prospects there are fearful to contemplate. A letter from LaSalle county says that hay there is now worth as much per pound as shelled corn, though there is much less corn than a year ago—a great deal having been fed out on account of the very hard winter. There is about two feet of snow on the ground, and two feet of frost under it, which will make the spring a very late one."

"A letter from Adair county, Iowa, says that a great deal of corn is on the ground, and badly damaged. Farmers will not be able to work in the fields before the middle of April."

Edgar and Crawford counties in Illinois are near Terre Haute, Ind., and are included in the information given the writer, above noted.

The Cincinnati *Prices Current*, which is very reliable authority, estimates the winter wheat crop as generally promising, with a yield not much, if any less than last year, with a generally favourable outlook, and some considerable increase in the average. The weather we are now getting in Ontario is not very favorable for the wheat plant, but still it is too early yet to form any opinion, and the reports and opinions that we hear are all more or less guessing. The situation is just this; if prices keep steady a certain proportion of wheat now in the country will go forward; but should prices give way to any extent, just in that proportion will the forward movement be checked, and business checked. From what we can learn we are of the opinion that all the wheat we now have in Canada will be wanted for milling purposes by the time the crop of 1881 is ready to be marketed.

FLOUR.

The trade in flour is beginning to assume very important proportions in this country, and some are predicting that the day is not far distant when we shall see all our surplus wheat go forward in flour. There is no doubt that the improved machinery and appliances which the Canadian and American millers are using is very seriously effecting the milling interest both in England and on the continent.

PEAS

Are now pretty well bought up, and what are left will be wanted for local use and seed.

CLOVER SEED

Has ruled very quiet and dull the past winter. This was to be expected from the large amount of old seed held back, which, together with the new, made an average crop. Much of this seed, especially the new, was in poor condition and the sample irregular.

CHEESE.

There is not the prospects for the good wind up of the trade this spring there was a year ago. Stocks have moved off very slow, and there has not been the demand that many in the trade expected. The price was forced too high, and the result has been that consumption has been checked. An English letter that we saw the other day had this remark; "When the price is above 12 cents, cheese wont sell here except in small lots. When we have them at 9 and 10 cents we can get through any quantity."

BUTTER.

This article bids fair to make a sorry wind up. Anything but strictly fine is simply unsealable at any price within reason, and we begin to think that there is a good deal of this class of butter that will have to be held over till next fall, and then sold as grease.

Referring to the butter trade a Montreal paper has the following, which we know to be quite correct:

If Canada is to retain her export butter trade (and she cannot afford to lose it), her farmers will need to look well to their laurels during the coming season, as their competitors threaten to be more formidable than ever, and the sooner they know exactly where they stand, the better will it be for themselves and the trade at large. The following circular has been issued by a leading London provision firm:—"We call attention to large consignments of Australian butter, genuine, per 'Orient Line.' Several vessels have arrived, and the quality is useful. We quote kegs or casks 54s. Tins hermetically sealed, containing 45lbs. each, 10s extra." Then again we notice that margarine at 66s is advertised in the English market as follows:—"Equal to Canadian at 124s." Whatever may be said of butterine on this side, it is incontrovertible that preference is given Dutch butterine to ordinary Eastern Townships by a large class of English consumers. These are hard nuts, but they might as well be cracked first as last. They amount to the fact that ordinary Canadian dairy butter has seen its best days as an article of export. But some will ask: "Does this mean the extinction of our export butter trade?" Certainly not. The creamery system offers a solution to the difficulty which now confronts us in the old dairy system, and the quicker the former is universally adopted the better will it be for the Canadian butter trade.

London Markets.

London, March 30, 1881.

The prospects of the crops of 1881, added to the large surplus of breadstuffs of 1880, have had a depressing effect upon the markets all over the country. Prices have declined slightly. There is a disposition to regard any injury to the growing crop.

The demand for barley is increasing. Sales of Canadian are made in American barley at \$1.90 to \$2.25. States barley at \$1.50 to \$1.90 per cental.

GRAIN

Deihl Wheat...	Per 100 lbs	\$1 75 to 1 83	Rye.....	Per 100 lbs	80 to 90
Treadwell.....	1 75 to 1 83	Corn.....	85 to 1 00		
Clawson.....	1 75 to 1 83	Peas.....	90 to 1 15		
Red.....	1 75 to 1 83	Oats.....	1 05 to 1 12		
Spring.....	1 69 to 1 81	Barley.....	1 20 to 1 60		
		Timothy Seed.....	1 20 to 0 00		

FLOUR.

Flour, fall wht.	3 25 to 3 00	Oatmeal fine	3 00 to 2 40
do mixed	3 00 to 2 75	do coarse	3 50 to 3 25
do spring	3 00 to 2 75	Cornmeal	1 75 to 1 50
Shorts, per ton	18 00 to 19 00	Bran, per ton	10 00 to 10 00

PRODUCE.

Butter, crock.	20 to 23	Potatoes, bag.	75 to 90
do roll.	18 to 20	Apples p bag.	40 to 60
do keg.	15 to 16	Turnips, p bu.	20 to 25
Eggs.....	18 to 25	Beef, per qr.	5 00 to 7 00
Carrots, p bu	20 to 25	Mutton, lb.	7 to 8
Onions, bag	0 70 to 1 00	Lamb.....	9 to 10
Beef, per qr.	6 00 to 7 00	Wool.....	27 to 00
Tallow rehd.	4	Dressed hogs,	
do rough	6	per 100 lbs.	7 75 to 8 00
Honey.....	20 to	Live hogs, do	5 00 to 5 50
Cordwood.....	3 00 to 4 00	Lard.....	9 to 11
Ducks.....	30 to 40	Geese, each	40 to 45
Chickens, pr.	25 to 40	Turkeys.....	75 to 1 25
Cheese, per lb	11 to	Milk cows.....	26 00 to 40 00
Clover seed.....	4 50 to 4 00	Timothy.....	3 00 to 3 25
Beans.....	1 00 to 1 50	Hogs.....	7 75 to 8 00

HAY AND STRAW

Hay, per ton	9 00 to 10	Straw, per load	2 00 to 3 00
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Liverpool Markets.

Liverpool, March 30.—Flour, 8s 6d to 11s; wheat, spring, 8s 6d to 9s 2d; red winter, 9s 3d to 9s 9d; white, 9s 6d to 9s 8d; club, 9s 6d to 9s 11d; corn, 5s 4d to 5s 6d; oats 6s 2d; barley, 5s 3d; peas, 6s 10d; pork, 68s; lard, 54s 9d; bacon, 4s to 42s; beef, 70s; tallow, 35s; cheese, 56s.

Montreal Market.

Montreal, March 30.—Market quiet but steady. Flour, superior, \$5.30 to \$5.35; fancy, \$5.10 to \$5.15; spring extra, \$5.10 to \$5.15; strong baker's, \$5.50 to \$6; middlings, \$3 to \$4; Pollards, 3s 2s; Ontario bags, \$2.40 to \$2.60; wheat, nominal; corn, 50c to 57c; peas, 80c to 82c; oats, 35c 36c; barley, 65c to 75c; rye, 55c to 90c; oatmeal, \$4.35 to \$4.50; butter, western, 13c to 18c; cheese, 12c to 14c; pork, mess., 18c to 19c; lard, 13c to 14c, hams, 12c to 14c.

Toronto Market.

Toronto, March 30.—Fall wheat, \$1.18 to \$1.14; spring, do., \$1.11 to \$1.20; barley, No 1, 97c; No 2, 90c to 93; No 3, 72c to 83c; peas, 74c to 76c; oats, 37c to 38c; corn, 60c; flour, \$4.00 to \$5.25; bran, \$13; clover, \$4.60 to \$4.75; timothy, \$2.50 to \$2.75; hogs, \$7.50 to \$8; butter, 12c to 18c.

Live Stock Market of Great Britain.

London, March 17.—Cattle at market, 2,300. Sheep at market, 9,719. Best beef, 7d to 8 1-2d per lb.; inferior and secondary, 6d to 7 1-2d per lb. Best mutton, 9 1-2d to 10 1-2d per lb.; inferior and secondary, 7 1-2d to 9d per lb. Cattle—Trade quiet; tendency rather firmer; supply limited. Sheep—Supply moderate; trade steady at late rates. Liverpool—Cattle at market, 1,104 sheep at market, 3,737. Best beef, 6d to 8d per lb.; inferior and secondary, 0d per lb. Best mutton, 8d to 10 1-2d per lb. Cattle and Sheep—Supply rather larger than last week; demand fair for each, and values unaltered. Glasgow—Cattle at market, 1,575; sheep at market, 2,840. Best beef, 7 1-2d to 7 3-4d per lb.; inferior to secondary, 6d to 7 1-2d per lb. Best mutton, 10d to 10 1-2d per lb.; inferior and secondary, 8d to 10d per lb. Cattle—The supply was larger than last week; quality generally middling and inferior; demand good for top sorts at last week's prices. The supply of sheep was considerably greater than last week; quality generally good; last week's prices.

SUPERPHOSPHATE OF LIME—We are pleased to call attention to the fact that the Fertilizing Company of Canada is now established in Guelph, Ont., to supply farmers with this valuable manure. The company hold a large list of satisfactory testimonials from parties that have used their superphosphate. We understand that this company consists of men of capital, who are determined to put out a real, genuine, cheap and valuable article.

Mr. Wm. Steele, of the 5th con., London, has 400 bushels of peas, perfectly free from bugs, which is a phenomenon for the last year crop in this section of Ontario. The peas were sown very late, and not only are they free from bugs, but there is a large yield to the acre. The pea weevil or bug is limited to a certain period for depositing its eggs, and hence late-sown peas escape the attacks. Peas sown as late as the 10th of June in Rensselaer county, New York, for six years in succession never had an insect in them; whilst those sown on the 20th of May in Pennsylvania were entirely free from bugs. Farmers should follow the example of Mr. Steele and try late sowing.

Caution to Farmers.

Sir,—I had a new variety of oats sent me called the "Egyptian Side Oats." Do you know anything of them? Probably they will turn out like the Egyptian Wheat which hailed from the same place. Find enclosed a printed circular concerning said oats. R. R., Drummondville, Ont.

[We have never heard of this variety of oats which are called by the person who advertises them, the "Double-headed white Egyptian side oats." We do not believe any such variety exists. We have examined the circular sent us and find it full of glaring inconsistencies; so ridiculous is it that any farmer who knows anything of his business should not be deceived by it. We advise all our readers to let this oat alone. When you wish to procure reliable seed, either of old or new varieties, apply to reliable seedsmen, who will send their catalogues on application.]

Stock Notes.

It is reported that Senator Cochrane has already purchased seventy-five bulls in Great Britain, and has made arrangements for the purchase of two hundred more. They are of the Hereford, Short-horn and Polled Angus breeds. He will also secure some thoroughbred stallions and one hundred half bred mares. These are all for his ranch at Bow River, and will be further supplemented by eight thousand head of cattle purchased in Montana and Dakota.

Mr. F. W. Stone, of Guelph, Ontario, has made sales of the following stock lately, viz.:—To A. W. Maynard, Cairo, Missouri; the Suffolk stallion, Suffolk Punch.

To M. M. Boyd, of Bobcaygeon, Ontario, six Herefords, viz., (1 bull) Bonnie Lad 2nd, 1 year old, and 5 females.

To J. Gordon Gibb, Compton, P. Q., 1 Hereford bull and six females, viz., 1 year, by Regent. To Neil McDonald, Blyth, Ont., Shorthorn bull, Baron Gwyneth 4th, &c.

To B. Wemp, Oungal, Co. Kent, Shorthorn bull, Baron Bavraham 2nd.

To T. Lumsden, St. Francois Xavier, Manitoba, Shorthorn bull, Baron Bavraham.

W. & F. F. Flintoff, Aurora, Ont., have recently imported the young Clydesdale stallion Prince Royal, got by Lord Harry, both of which are registered in the English stud book. Prince Royal is rising three years, and weighs 1,800 lbs. He is reported as a first-rate animal in all respects.

Last year 1,782 Short-horn cattle were auctioned off at forty-eight sales in England, at an average of about £35 each—the extremes being 2,000 guineas and 52s. 6d. A writer in the London Agricultural Gazette remarks that "in order to make their business safe, English Short-horn breeders need to gain the confidence of English farmers."

Messrs. Jardine & Sons, Hamilton, Ont., have recently shipped 500 sheep to England with good results, and intend starting the 2nd of April with another cargo; they ship via Boston. They report their Ayrshires as doing well, and say they have a great many inquiries for young stock, and intend to import a number from Scotland this spring.

Mr. James J. Davidson, of Pickering, Ont., lately sold eleven head of Shorthorns, and one fat Shorthorn cow from his herd, for \$3,420, making an average of \$285 per head. The principal buyers were the Messrs. L. and B. Snider, of German Mills, Ont. Their first purchase consisted of five heifers, one bull, all under one year old; also one fat cow, at a total of \$1,625. After arriving at German Mills with the stock they received a visit from M. Palmer, of Missouri, the following day, who paid them an advance of \$375 for the seven head, or a total of \$2,000, making an average of over three hundred dollars for the calves. Mr. Palmer also purchased direct of Mr. Davidson one four-year-old cow and four-year-old bull for \$800.

The Messrs. Snider have since bought a fine 3 year-old-cow, with heifer calf, and also a fine bull calf from Mr. Davidson, and one two-year old heifer from Mr. Archman; and also an extra fine yearling heifer of Mr. John Miller, of Pickering, Ont. With this addition the German Mills herd of Shorthorns will again rank one of the finest in the Province.

We are also informed by the Messrs. Snider that their sales have been so large that they had to make those purchases to keep up their numbers, and that they have never had so many inquiries for blooded stock before. All the animals purchased are descended from Mr. Cruickshank's herd, of Aberdeenshire, Scotland, and have first-class pedigrees.

Mr. Rolph, of Markham, Ont., writes us as follows: We have had a very cold winter, but all kinds of stock are doing well; there never was a better demand for good stock. I have made the following sales through my small advt. in your excellent paper. To John Carroll & Sons, St. Catharines, six head of Jersey cows and heifers, including the beautiful imported heifer Gypsy Countess; to John Fee, Lindsay, Ont., one yearling bull and three heifers; to Geo. Laidlaw, Esq., president of Credit Valley R. R., two very fine cows; to Geo. Reeser, Markham, the two-year-old heifer Jersey Queen; this heifer made 10 1/2 lbs. of butter per week, at 22 months old. To D. Reeser, two yearling heifers, for a party in Kansas, U. S.; to J. W. Johnston, Fordwiche, Ont., one bull calf, and single animals to other parties. Also Clydesdale horses, to Hon. R. P. Haynes, Indiana, U. S., three fillies and one stallion; to Wm. Niles, Mich. U. S., two fillies; to Wm. Johnson, Washington, D. C., one mare and two fillies. Shropshire sheep to different parties, including five imported ewes to E. A. Bradshaw, Oshawa, Ont. I would certainly advise any parties having stock for sale to advertise in your paper, as it is sure to bring them lots of customers.

C. C. Bridges, Shanty Bay P. O., Ont., in a recent letter to the *ADVOCATE*, says his imported stock of Shropshires (27 in number) and finds the demand for pure bred stock so good, he is going to England for more next month.

The well-known Shorthorn breeder, Mr. Richard Gibson, of Ilderton, Ont., sails for England about the 1st of April. His purpose is to select and import a number of high bred Shorthorns for use in his own herd.

Mr. J. S. Armstrong, of Speedside, Ont., has lately purchased from Bow Park herd the fine young bull, Butterfly Duke, sired by 4th Duke of Clarence, dam Butterfly Duchess.

Lice, their Ways and Antidote.

Mr. Samuel Richardson writes from Minnesota that he has seventy-five head of two-year-old steers, which were put into a new barn at beginning of winter; are in good health and flesh; have never come in contact with any other stock, and yet they have got lousy. Has tried lard and carbolic acid melted together, but it is so cold there that the lard freezes in about two minutes, and the lice are "just as hearty and well as ever. The hair is getting loose, and the fine looking two-year-olds are beginning to make him feel ashamed of them. The barn is cleaned out every day and fresh bedded with straw; it cannot be from any neglect of care." The ways of lice are mysterious. They often attack cattle in fine flesh, but generally are to be found on those which are thin. They will spread rapidly, sometimes from one animal to another when they are confined in a stable, or they will sometimes remain on one animal, or more, during the entire winter without spreading. They seem to prefer animals with thin skin, and on this account are generally to be found on calves, or white cattle. Cattle which are frequently carded and the scurf washed out of their hair rarely have lice.

When lice infest a herd and get into a stable they are liable to summer over in it and prey upon the cattle the next winter. On this account, where lice once come they usually come again. They seem able to perpetuate themselves, hiding in the crevices of the stable, without any animal food for sustenance. Every stable in which lice are found should be thoroughly whitewashed with quicklime, allowing it to penetrate all the cracks, or if the stable is tight enough it should be fumigated by burning sulphur in it, which is destructive to all parasites of this kind. Of course the cattle should be removed from the stable during this operation. Cattle get lice upon them when lying in places where rubbish has decayed, or where there is rotten wood, which is a natural place for lice to harbor. Lice multiply under favorable conditions, and some seasons are more plentiful than others. Sometimes an animal will have a few lice which it will carry all winter without any visible increase, and then again from a few they will increase to myriads. This increase generally follows when poor food is given to the animal, with a waste of vitality. An increase of vitality and flesh usually results in no increase, or perhaps a lessening, in the number of lice.

Mercurial ointment is an effectual remedy for lice, when rubbed into the hair, but it is so poisonous that it is dangerous. It makes the animal liable to take cold, causing stiffness, or eruptions of the skin when too much is applied, and to be poisoned by licking itself. An old farmer used to puncture the skin behind the foreleg and insert a ball of this ointment, closing the aperture by a stitch, so that it could not work out. The poison was absorbed by the blood, and in this way the lice were destroyed. This farmer insisted that this was the only proper manner to use mercury. He had practiced it for years with success, he claimed. A strong decoction of tobacco will kill lice. The best destructive I have ever tried is a mixture of kerosene oil and lard of equal parts. If the weather is too cold to apply the mixture, which may be melted, I should try kerosene oil alone. It will not injure the hair or skin of pigs when applied to them, and it probably would not affect cattle. I would not be afraid to risk it, and it is a perfect destructive for lice. It is a discovery of my own, which experience justifies. I should mix powdered sulphur with salt and give the cattle free access to it whenever they were lousy. If they eat enough of it the lice will leave them. Anyway it is healthful, and will aid in the cleaning out of the parasites.—[F. D. Curtis, Kirby Homestead, N. Y. Tribune.

Advertisements.

FRUIT FARM FOR SALE.

The best bargain in Canada to-day for anyone desiring to purchase a Fruit Farm and a beautiful home in the best locality in Canada for fruit raising. Adjoining the Corporation of the Village of Grimsby, containing 75 acres of land, 32 acres of orchard, having 2,200 apple trees, between 300 and 400 peach trees, 1,000 black currants, half acre raspberries, all of which will soon be bearing. A splendid location for house, overlooking the whole orchard and lake. Property now has good barn, small frame house. This for sale at a price to suit any person wishing a home in this beautiful and healthy locality. Investment will pay greater interest than any farm in Canada. For particulars address Wm. FORBES, Grimsby, Ontario.

Land Plaster!

Canada Land Plaster Co.,
GILL, ALLEN & CO., PROP'RS.

We were awarded the principal prizes at all the leading Exhibitions in Ontario in the fall of 1880, for Rock Gypsum and Land Plaster prepared for the Market, as follows:

Diploma at the Provincial Exhibition, Hamilton
Diploma at the Southern Counties' Fair, St. Thomas.

Diploma at the Great Western Fair, London.
1st Prize at Guelph and Brantford, and 1st prize on Rock Gypsum at Toronto Exhibition.

We own the only mines of Grey Gypsum in Ontario, and it can only be procured from those who deal with us. It is the Grey article from our Paris mines and mills which is preferred at the Model Farm.

The Grey Land Plaster is manufactured and shipped from Paris by rail, and the White Land Plaster from Cayuga by rail and water.

The Caledonia mill having been destroyed by fire the quantity of white available for the market will be decreased by several hundred tons, and we are now running the Paris and Cayuga Mills night and day in order to keep up with the demands.

A great deal of disappointment and trouble would be avoided were orders placed earlier in the season. When the majority delay ordering until the last two or three weeks of the season, it is impossible to procure cars and have them loaded as promptly as desirable. The demand this year is more than double that of last, and we have to request our customers to communicate their wants to us as early a day as possible.

Address, Box 95, Paris, Ont.

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Photographs!

THE BEST AND CHEAPEST.

JOHN COOPER, London, Ontario.

Gallery, 440 Clarence St.,

This is the oldest Photograph Establishment in Western Ontario. Old pictures copied, enlarged or reduced, residences, groups or scenery of any kind taken in any part of Ontario. Copies sent by mail or express. Orders attended to promptly and satisfaction guaranteed. Address JOHN COOPER, 440 Clarence street, London, Ontario.

FARMS—Persons having good farms to dispose of in good localities, and at fair prices, would do well to give full particulars of such in the *ADVOCATE*, as we frequently receive applications from emigrants and others, and often aid both buyer and seller.



EGGS! EGGS! EGGS!

FROM THE BEST STOCK PROCURABLE, and of the best kinds of Fowls and Ducks: Silver-Grey Dorkings from the Centennial Prize Stock. Eggs carefully packed and delivered at the Express Office in this City at \$2 per dozen.

ROUEN DUCKS.

The Highest Prize awarded in Canada last year was gained by birds raised from my stock of Ducks. Eggs \$2 per Dozen. Cash to accompany order. Letters requiring answers must contain stamp for reply. Address—

CHARLES WELD, London, Ont.

NEW FRUIT AND ORNAMENTAL TREES

Besides the largest and most complete general stock of Fruit and Ornamental Trees in the United States, we have the pleasure to offer the following Choice Novelties: **APPLES**—Red Bietzheimer, Stump, Sutton Beauty. **PEARS**—Souvenir du Congrès, Petite Marguerite, Ansalut. **PEACHES**—Waterloo, Conkling. **GRAPES**—Monroe, Rochester, Lady Washington. **STRAWBERRIES**—Sharpless and others. Also, the best new Deciduous Ornamental Trees and Shrubs, Evergreens, etc. We always secure the best novelties at home and abroad, and all who intend to plant should not fail to consult our Catalogues, which contain full descriptions of all the new and old fruit and ornamental trees worth having.

Priced Catalogues sent as follows: No. 1, Fruits with plate, 15 cts.; plain, 10 cts. No. 2, Ornamental Trees, etc., with plate, 25 cts.; plain, 15 cts. No. 4, Wholesale, Free. No. 5, Catalogue of Roses for 1881, Free. No. 7, Catalogue of Strawberries and Small Fruits, Free.

ELLWANGER & BARRY, Rochester, N. Y.

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SPECIALTIES FOR SPRING!

Crab-Apples, Apple Trees, Red Dutch Currants, Asparagus Roots, Mazzard Cherry Stocks, Christine Grape Vines, Wistaria Sinensis, and Frutescens Seedlings, Pyrus Japonica, Magnolia Accuminata (7 to 8 ft.), and a large assortment of other Nursery Stock. Address **GEO. ACHELIS, West Chester, Pa.**

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NEW STRAWBERRIES And New Grapes.

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This Collection by Express for \$2.25.

- 1 Prentiss, \$1.50
- 1 Moore's Early, 60c.
- 1 Brighton, 30c.
- 1 Lady, 40c.

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This Collection by Express for \$3.00

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- 12 Duchess, 25c.
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I would call special attention to my superior stock of Onion Seed, grown by myself.

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Calling at principal stations to Detroit, and will be followed by others leaving on 10th March, 6th and 20th April, 1881.

Through Freight Trains for emigrants' effects and general merchandise, under the direction of a special agent of the Company, leave on the 28th of Feb., 14th March, 4th and 18th April.
For rates and all other information, apply to J. McLeerie, Manitoba Freight Agent; J. Knox, Manitoba Passenger Agent; Wm. Edgar, General Passenger Agent; G. B. Spriggs, General Freight Agent, Hamilton, or any of the Company's Stationmasters.

F. BROUGHTON,
General Manager.

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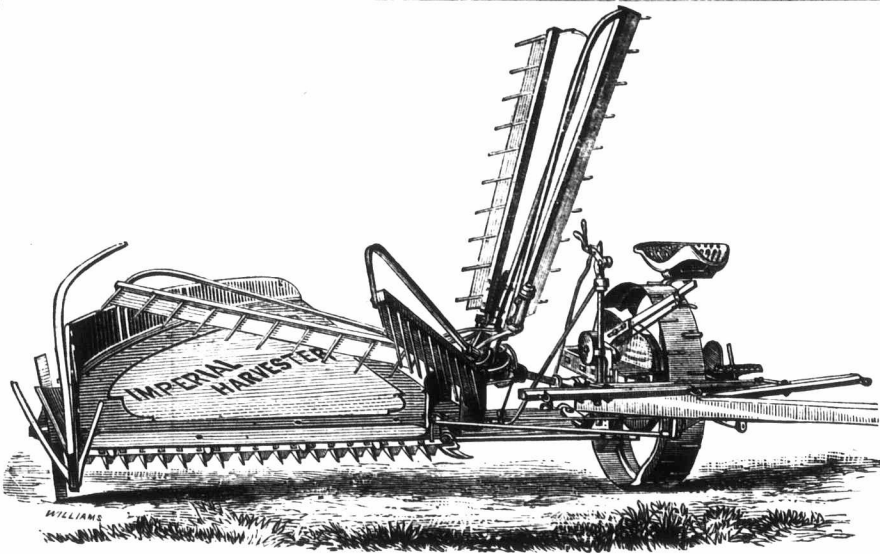
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Farmers, Breeders and others having sound young Draught Horses, Carriage and well bred Saddle Horses to dispose of, will find this an unusually good opportunity, this sale being extensively advertised throughout Canada, Great Britain and the United States.

W. & Q. GRAND,

PROPRIETORS AND AUCTIONEERS

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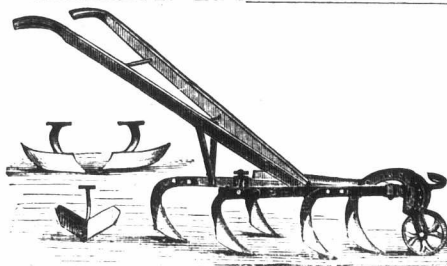
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FIRST PRIZE
Wrought Iron Beam American Jointer
PLOW!

Long handles, wrought-iron beam, suitable for our Canadian farmers. Two sizes.

First prizes at Toronto Industrial, St. Thomas, Western at London, and other fairs in 1880.

Chilled Iron or Steel Mouldboards; also Hill's Patent general purpose Plow and one-horse Plows. Send for price list. Address -

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(NEAR TORONTO.)

Encourage Home Productions

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Standard Pears, Cherries and Plums at reasonable figures.

My stock is Canadian grown and suitable to the climate.

Send for Catalogue.
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Fine-Bone-Dust, -	30 "
1-2 inch " -	25 "
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Diploma was awarded to us at the Provincial Exhibition, Sept. 23, 1882, for the first Bone Mill established in Upper Canada.

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CHEESE MAKERS AND FACTORYMEN

Should send for our

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Of Dairy Goods and Factory Furnishings before purchasing elsewhere.

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"B" Hand Shuttle Sewing Machines,

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UNEQUALLED LAWN MOWER.
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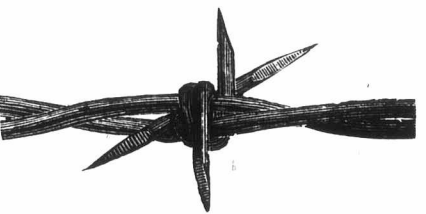
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Will be mailed FREE to all applicants, and to customers without ordering it. It contains five colored plates, 600 engravings, about 200 pages, and full descriptions, prices and directions for planting 1500 varieties of Vegetable and Flower Seeds, Plants, Roses, etc. Invaluable to all. Send for it. Address, **D. M. FERRY & CO., Detroit, Mich.**

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Weights 14 oz to the rod, and will stand 1,600 pounds to each line, before breaking. It is adopted by Railroads, Stock Raisers and Farmers, on account of its superior style of Barb, which passes between the two wires, firmly locking them together, then is wound around both, fastening the barb securely so that it cannot be moved, thus making the strongest, most durable, and cheapest wire in the market.

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\$66 a week in your own town. Terms and \$5 outfit free.

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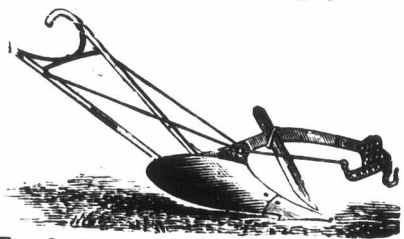
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 WM. PARKS & SON,
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 One-Horse Plough,



For Orchards, Gardens & Nurseries.

Made by
COPP BROS. & CO.,

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Send for Price List.
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"BELL" ORGAN

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To J. Hecher, Esq., Agent for Bell's Celebrated Organs at Montreal.

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Wishing them large and remunerative sales,
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Signed,
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 General Manager Merchant's Bank of Canada,
 Montreal, January 24th, 1879.

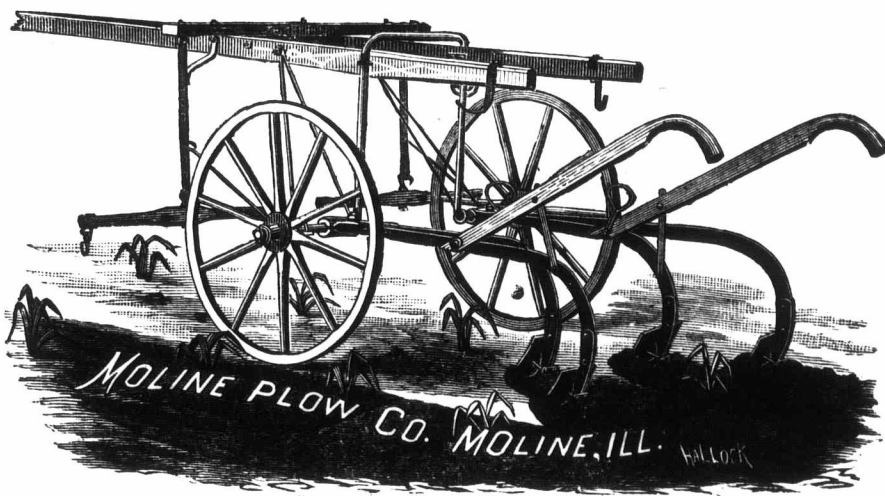
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- Received Silver Medal and Diploma at Centennial..... 1876
- Received International Medal and Diploma at Sydney, Australia..... 1877
- Received only Medal for Parlor Organs at Provincial Exhibition..... 1878
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Which is without doubt the very best implement known for cultivating Corn and Roots. Send for circulars and read its record for last season. You had also better get a good planter for \$1.50.

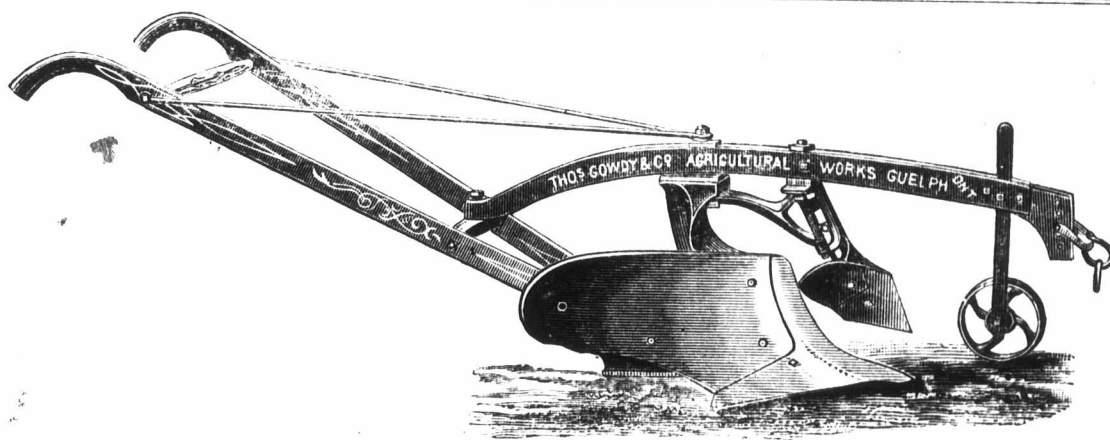
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183 c

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PATENT SECTIONAL IRON BEAM PLOW,

The Most Perfect Jointer Plow in the Market. Manufactured by

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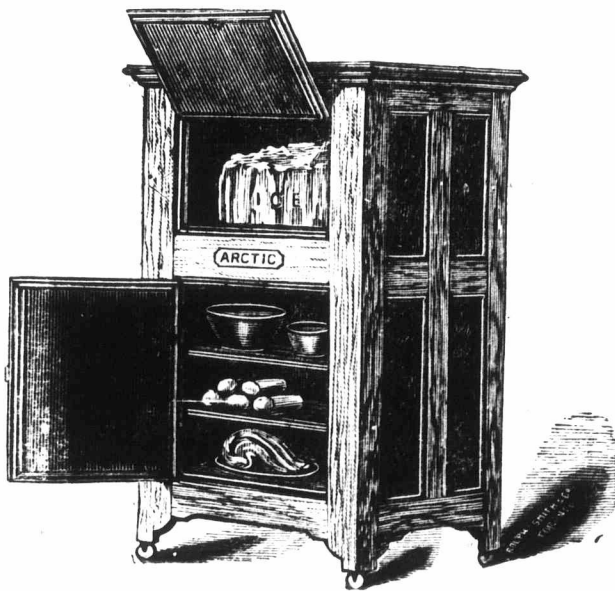
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Rooted plants, per hundred, \$1.50; roots per lb., 75c. 1 lb. will make 100 strong cuttings. Send for circulars of instructions, testimonials, &c. Address
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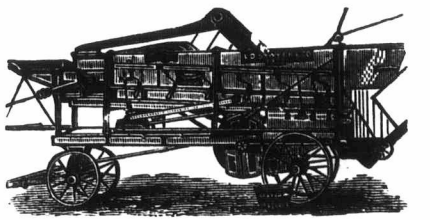
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