

FARMER'S ADVOCATE

THE BEST. WELD tractor. The consists in EASE. Largest stumps; operated by man strength and leaves no holes to in the ground, and particulars of superior machine.

FFIELD, Chain Works, Street, Toronto.

E & Co., Montreal.

SPRINGS ON HAND.

Flue Covers, Portland, Water.

ailway ROUT.

MANAGEMENT OBA.

ITORIES! heat-producing agricultural and mbia, will find Grand Trunk.

ROUTE.

EST! making direct from Sarnia through to Winni-est Territories.

ailway, connections, and line, is the on. The very passage, live for emigrant ants. It has of being an bodies of emi- has been paid, train service, structions to of our tickets.

rsionists or by rail an in the North.

gents at

CKSON, on'l Manage

AND HOME MAGAZINE

VOL. XVIII.

LONDON, ONT., APRIL, 1883.

No. 4

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

FOUNDED 1869

THE FARMER'S ADVOCATE

—AND—

HOME MAGAZINE.

WILLIAM WELD, Editor and Proprietor.

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

TERMS OF SUBSCRIPTION:

1. \$1.00 per year, in advance, postpaid; \$1.25 in arrears. Single copies, 10 cents each, postage prepaid.
2. Subscriptions can commence with any month.
3. Remittances at the risk of the subscriber unless made by registered letter or money order.
4. Subscribers who desire to change their P. O. address will send both old and new address.
5. The FARMER'S ADVOCATE is continued until otherwise ordered. The name of a subscriber is taken off from our list with the same promptitude in all cases that it is put on, provided all arrears are paid up, but we cannot stop a paper unless the name of the Post Office, as well as that of the subscriber, is sent to us.

ADVERTISING RATES:

Will be furnished on application, and manufacturers, seedmen, stock breeders and others will find this journal an unrivalled advertising medium.

The ADVOCATE has the largest circulation among the best people in Canada. Its advertisements are reliable and are read.

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

The FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can in the nature of things be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery.

Our Address Labels.

Our subscribers will bear in mind that no notice is now given of expiration of subscription, as the "address label" is a sufficient notice, showing as it does the date up to which the subscription is paid, or from which the subscription is due.

Receipts are no longer necessary. Each subscriber can ascertain by the change of his date on his "address label" whether his remittance has been received. If forwarded after the 25th the change will not probably be made until the second issue from date of remitting.

Spring Showers.

Our friends continue in their canvass, and new names are pouring in from all parts of the Dominion. We are very anxious that these "spring showers" should continue abundantly; they are refreshing and substantial. Our new premium list will be issued, we hope, about the 1st of May, and will contain an altogether new class of prizes for your selection. All new names sent in from this date can await your choice from our new list. The FARMER'S ADVOCATE has never been surpassed for the usefulness and merit of its premiums, and our new list will in no way detract from our reputation.

"THE FARMER'S ADVOCATE" PRIZE OF \$100

given annually by Wm. Weld, Editor and Proprietor of this paper, will be awarded at the next Provincial Exhibition, to be held at Guelph, Ont., from the 24th to the 29th of September, inclusive, for the best samples of wheat.

The prize will be divided as follows: Two prizes of \$30 and two of \$20 each. The first prize of \$30 to be given for the best variety of fall or winter wheat for the general farmer to raise, and \$20 for the second best variety of fall or winter wheat; \$30 for the best variety of spring wheat, and \$20 for the second best variety of spring wheat.

RULES.

Two bushels or 120 pounds of the wheat to be exhibited. The name of the wheat, together with a written description, to be given, stating where the wheat was procured, how originated or introduced, as far as can be ascertained, a description of the soil and situation on which grown, what fertilizer used, and general history of cultivation. (The wheat must have been grown in the country for at least three years.) Also a report as to its milling and marketing qualities—a practical miller to be one of the judges.

The prizes will be given to four distinct varieties, and the descriptions and reports must be furnished to the Association before the bags are opened, the reports of all competitors to be the property of THE FARMER'S ADVOCATE. It is not necessary that the finest sample of wheat should in any way effect the award of the prize except that the wheat should be pure, clean and unmixed, the object being to decide the most valuable variety from actual yield and general qualities.

Our Monthly Prize Essay.

Our prize of \$5.00 for the best essay on "The best five varieties of potatoes grown in Canada, and which are best adapted to the soil," has been awarded to Mr. George Nixon, of Hyde Park, Ont.

Our next prize of \$5.00 will be given for the best essay showing the advantages and results derived from the application of artificial manures to grain, grasses and roots. The essay to be the practical experience of the writer, and must be handed into this office before the 20th of April next.

A prize of \$5.00 will be given for the best essay on the treatment of milk cows. The essay to be from the actual experience of the writer, and must comprise the following subjects:

- Treatment of cows running repeatedly.
- " " before and after calving.
- " " that don't clean at once.
- " " that eat cleaning.
- " " udder before and after calving.
- " " calves if weaned.

The essay to be handed in to this office by the 20th May.

Scan our advertising columns and give our advertisers a trial. If you don't find there what you wish to purchase, drop a card to this office.

The Month.

The winter wheat looks well where it is uncovered. Stock generally have come through the winter well in good farming localities, but on poor land there has in some neighborhoods been a scarcity, and cattle are thin and will take some time to pick up to make a good flow of milk or good thrift in growth; in fact they never regain their lost position. One well fed animal will produce more profit than two or three half-fed animals. Complaints are made that the peach buds have been destroyed. The solid coat of snow we have had has kept our meadows in good order. Grass is king, there being no complaint of the grasses being heaved out and killed. This winter should give us every hope for a very profitable season. Sales are numerous and cattle bring good prices.

Foot and Mouth Disease.

From recent advices which have reached us through English exchanges, we find that this dire disease is making sad havoc amongst the herds of cattle throughout the United Kingdom. In Scotland, where the disease was supposed not to exist, it has recently broken out with baneful effects. In England and on the continent this disease has existed for years, and all the efforts of the Governments and private individuals appear to have been futile in stamping it out. No sooner do we find it abating in one district than it suddenly breaks out in another. The responsibility of the continuance of this malady appears to rest with the slipshod manner in which inspectors do their duty, and a mistaken conception of the dangerous character of the disease. Although it has existed for at least a quarter of a century in England, and the nation has sunk millions, yet we find the majority of British farmers, and, indeed, the political press, indifferent to its ravages.

This appears to arise from the interference of the governmental regulations with the regular established markets for stock; and the motto upon which stock raisers and buyers appear to have been going on is, that they would rather put up with the disease than to have all their markets closed, and their prospects of making a fair return from fat stock ruined.

Although there is no immediate danger in this country, yet our authorities and farmers should take a warning and a lesson from its present spread in the United Kingdom. Only recently the London Standard pooh-poohed the idea of the foot and mouth disease as existing only in isolated cases of a few poorly-fed and hardly-driven animals, notwithstanding it was pointed out by the agricultural press and veterinary surgeons at large. Yet it did exist in face of a strict adherence to the quarantine regulations. The ADVOCATE has always sounded a warning note against introducing the foot and mouth disease in this country, and we hope if any cases are found to exist, that, for the sake of the public good, our authorities and farmers will take prompt measures to stamp it out.

On the Wing.

SOUTH DOWN SHEEP.

The depression in the price of long wool has given quite an impetus to the breeders of the South Downs, which was evinced at Mr. Daniel Perley's sale. This gentleman had long been known as one of our best breeders of this class of sheep. For many years his success in the prize ring was the envy and admiration of many. Unfortunately he met with an accident, being kicked by a horse, which caused his death. The family concluded to sell off all the farm stock and implements, and the sale was advertised in the Feb'y issue of the *ADVOCATE*. The farm is situated in Burford, three miles from Paris and seven from Brantford. The day previous to the sale a heavy snow storm prevailed, which blocked the roads. This part of the country being hilly, and a breeze having been blowing, the snow had drifted so as to fill the roads and in some places cover the fences. Despite this, the people flocked to the sale; they made their way over fields for miles, it being impossible to go on the roads, and to our surprise, the largest assembly of farmers was seen there that we have ever seen at a farm sale. The number was variously estimated, even as high as a thousand. The South Down men were drawn from north of Toronto and west of London. The flock brought a good sum, averaging nearly \$30 per head; some few sold at over \$50 per head. They were a very even lot of sheep and in fine, healthy condition.

The directors of the Union or Hamilton Exhibition have taken a new departure in regard to the encouragement of raising fine-wooled sheep. They have added a special class for Canadian-bred South Downs. Some of the South Down men have thought that it is not giving a fair show to them to allow the importers of the prize winners at the Royal or other English exhibitions, to run around all our exhibitions and carry off all the first prizes, as it is claimed that these prize winners seldom do good to the real breeder, but only give a reputation, often undeserved, to dealers; also that these imported show ewes seldom breed, and that we are encouraging the speculator rather than the breeder. By awarding the same prizes to Canadians we encourage our farmers to strive for the honors. The subject deserves the consideration of the directors of other exhibitions. We know for a long series of years Canadians have not had the same privileges and encouragement that importers have had. For instance, when exhibiting at the Provincial, if an animal gained a prize and it was imported, the prize money was doubled. This was militating against the Canadian breeder, and paying a premium to foreigners. Canada has now the nucleus of as good stock as any other country. It only requires the care, the feed, and the attention, to compete with any in the world. Canadians have not as long purses to continue the feeding and care that many wealthy foreigners have; but for profit and use Canadians can produce such as are suitable to our requirements just as well as foreigners. So support Canadian expenditure for the benefit of Canadians.

After leaving the sale, we proceeded to

NORWICHVILLE,

a rising town in Oxford County. This is a place of historic note, and should be known by all Canadians interested in the agricultural prosperity of the country. An enterprising American named Ferrington took up his abode in this locality about twenty years ago. He came from New York State, and was well posted in the factory system of cheese-making. He erected a cheese factory and induced patrons to supply him with milk, and was one of the principal gentlemen who established a

cheese convention. It was commenced and established, and had become a subject of great importance before the Government interfered with it. Mr. Ferrington, we believe, gave Canadians more information about manufacturing cheese on the factory system than any other individual in Canada. He was much respected, and always gave any information so freely that every person looked on him as one of the leading spirits in the cheese interests, and all western dairymen who have ever attended any of the conventions have known the great benefits derived from his information,—in fact he added more to the real interest of cheese-making than any other individual. He never allowed nationality, party, sect, greed and gain to influence him. It is much to be regretted that after establishing three factories and getting them in good running order, he was called from earthly labors. From Mr. Ferrington's exertions may be traced the great spread of the cheese factory system over the country.

Mr. Lossee's factory is near Mr. Ferrington's late residence. His establishment is considered one of the best managed factories in Canada, many say the best. His products have brought a higher average than those of any other factory in the west. The annual meeting of the patrons was being held when we were there, and everything appeared most satisfactory. We were invited to make a few remarks, and enquired of the meeting if they were in favor of maintaining township shows. The unanimous vote was for their retention. They considered they were doing more good than the large exhibitions. One expressed his disapproval of returning so many speculators to offices that should be only filled by practical farmers.

The neighborhood of Norwichville is well adapted to fruit growing. A large fruit evaporating establishment is located here. We consider it the best we have seen. The dryer is constructed horizontally. This is considered better than those constructed perpendicularly. In the apple season this must be a busy establishment. At the present time but few hands are employed. The work in progress when we were there was assorting some of the dried fruit that had not been just in prime shipping order when put through the dryer. For instance, so particular is the proprietor to have first-class goods shipped, that after the peeling and coring and slicing are done, one person is employed at each knife to pull the apple slices apart, and examine them before passing through the dryer, and they are again closely inspected before packing. Every slice that has a small piece of core in it is rejected; also any piece that has had a worm in it, and any piece of an apple that has been frozen. These defective pieces are all thrown out at packing time, and in the winter, at leisure, people are employed with scissors to cut out any little defect in these dried slices. There is considerable waste in drying apples. For instance, the small and uneven apples are rejected, also all defective apples, whether worm eaten or badly bruised. These, together with the cores, etc., are turned to cider and then to vinegar. There are knitting and other factories established here already, and the progress and improvements are to be seen on all sides.

Mr. Lossee's factory is situated about two and a half miles from the village. Perhaps we may be offending some by not calling Norwichville a city. We had recently passed through many of the residential streets of Toronto, Hamilton and London, but we consider that Norwichville carries off the palm of honor from the whole of them in the displays made in the windows of the houses. In floral gardening the inhabitants of Norwichville

appear to rival each other, for the display of flowers and shrubs far surpassed any we had seen in any other locality this year; in fact none of our city streets could at all compare with the very pleasing effect that the Norwichville inhabitants display in window gardening. Another remarkable sight was to see a foundry placed in an orchard and shaded by the large, fine apple trees that overhang, and make it such a contrast to the generality of foundries. The implements made in this foundry deserve comment. In it are constructed what are considered the best cultivator and the best gang plow in the Dominion,—their great superiority consisting in the mode of constructing the implement. The teeth of the cultivator are made to cut all thistle roots, and the gang plow has an additional width of cutting surface on the landside to effect the same purpose. These implements are highly spoken of by those who have used them, and we all want an implement that will destroy our thistles the most effectually.

Raising Calves.

The time of the year has arrived when our markets are filled with veal of a very doubtful character,—indeed, to be plain, the greater portion is nothing better than carrion. The sale of this class of meat is brought about by the high price of butter at this season, and also the low price of veal. The butter-money of the farm is generally claimed by the women, and also the calves are relegated to their charge to feed, and the consequence is, in plenty of cases the calves are sold at a few days old, or kept, at the most, a couple of weeks. It is almost needless to inform our readers that veal, at this age, is not only not nutritious, but it is positively unhealthy and unfit for human food. From the large quantity of this class of meat which is every year exposed for sale in our markets, it is high time the authorities took measures to stop the sale of this carrion meat. However, it has often been a wonder to us why proper meat inspectors are not appointed by our local authorities. In London, Eng., and in nearly all the large cities of Great Britain, a law has been passed prohibiting the sale of veal under four weeks old, under penalty of seizure, and the imposition of a heavy fine. Of course, the public, to a certain extent, are to blame for countenancing the sale of this carrion by purchasing such; but poor people, cook-shops and boarding-house keepers are the ones that patronize the trade,—the first through want, and the second through greed. Besides the sanitary aspect of this calf question, however, there is one of vital importance to our farmers at large, and that is by this indiscriminate slaughter of calves, our country is becoming decimated of stock, and our farmers are losing money. Look at the price of all kinds of stock at present, and then look at the price of hay and straw. In conversation with some farmers in the northern counties of Ontario—of which there are no better lands in the country—we found hay was only selling for \$6 a ton, and spring calves in the fall sold for \$15 to \$17 a piece.

With the present development of the great wheat-producing areas of the West and Northwest, the older settled portions of Canada will find that stock-raising will form one of the most profitable branches of farming. We have a ready market with all parts of Great Britain, and well-fed beef for foreign shipment will always command a high price. Instead of our farmers selling their calves at the age they do, let them keep more stock, and of a better quality. For instance, a well-bred Durham grade at two years old may be made to weigh as much as a scrub would at four years;

and, according to the price of steers last fall, such were worth in the vicinity of \$40. Another phase of this calf question is the necessity of our farmers making more manure. We have no hesitation in saying that to this will they have to look for their future prosperity. Tersely, it may be put in this way: No stock, no manure; no manure, no crops. The objection made by farmers to raising calves is that dairying and the former cannot be carried on simultaneously, and that, in order to obtain profits from the one, you must sacrifice the other; but this is a fallacy. In the large dairying counties of England, hundreds of calves are raised on skim milk and oatmeal, by farmers who make a specialty of this branch, and, hence, there should be no anomaly between calf-raising and cheese-making in this country. If any farmer in a central dairying point last spring had made a specialty of raising calves, he could have made handsome returns. From the present scarcity of stock it is evident this calf-killing is having a serious and detrimental effect on the prosperity of our farmers and the country at large; and it is to be hoped that for the coming season the demand for more stock will be promptly met by saving the calves. Steers are fully as valuable as heifers, and we safely assert that, in the Dominion of Canada, if, only for one year, the female offspring are saved, we should add to the wealth of the country a hundred fold. We should, according to the accounts that reach us, especially this year, try and rear as many calves as possible, for, through some unknown cause, a large majority of cows are farrow; if this be the case, we have no hesitation in saying that store cattle next fall will be dearer than ever. It need hardly be urged that whilst our farmers are breeding and raising calves, that attention should be paid to good breeding, and however scarce stock is, it don't pay to raise scrubs. By the intelligent breeding and rearing of calves for the future, Canadian farmers may expect a handsome return for their outlay. The increased export trade with the mother country will fully bear out this, and should fully convince our farmers that the rearing of calves is profitable. At a fair calculation, there are 200,000 calves recklessly and unprofitably slaughtered every year in Ontario, which could be raised, and which would tend to increase the general wealth of the country and the prosperity of the farmers at large.

Corn Culture.

It has always been a matter of surprise to us that corn has not been more generally cultivated by our farmers, when it is considered that, according to U. S. statistics, only one State in the Union exceeds Ontario in the average yield to the acre, and only two are equal to it in 1881. For a number of years now, this cereal has only been grown as a casual crop in small patches, probably for green corn, or enough to feed a few fowls, as it has been generally understood by the average farmer that corn was too much trouble, and it was not a paying crop. With this idea, no improved methods of cultivation were looked after, and a corn crop worked by hand on a piece of poor, dirty land has nothing promising about it. When farmers begin to understand maize culture better in Ontario, they can till ten acres with as much ease as they can do one now. For productiveness and value as feeding material, corn has no equal; indeed, on this side of the Atlantic, for cattle and hogs, it is looked upon as our standard cereal, and there is no other which can take its place, either for its grain or its value as forage, dried or prepared as ensilage. It is surprising, when land is in good tilth and clean, how easily a corn crop is managed; and it is of little use attempting to raise a profit-

able corn crop unless it is. Where farmers have failed in Ontario is not knowing and understanding the nature of soil best adapted to corn culture and the preparation of the land. To expect a paying crop off a poor soil, or soil too heavy and wet, is out of the question. There is no land that requires more thorough culture than a corn field, and there is no cereal that makes such a large return for the labor. In the vicinity of London we saw a field two years ago that yielded 80 bushels of shelled corn to the acre. Of course this was an exceptional crop, but it goes to show what we referred to in the report—that Ontario is one of the best corn raising countries on the continent. The average price of corn may not be expected to fall far below from 60c. to 70c. a bushel, as it will be always a standard feed; and taking one year after another, it is one of the safest and surest crops we have. Well cured corn stalks are inestimable either dry or as ensilage, and when both the grain and straw are taken into consideration, there is no other grain crop that can equal it in profit. Another phase of this corn question, and why its more general growth should be encouraged, is the immense profit derived from sweet corn for canning purposes. As this new industry develops there will be a keen demand for this class of corn, and remunerative prices will be paid. In different parts of the U. S. the factories buy the corn standing in the field, and pay from \$85 to \$150 per acre, according to the crop. Thus the farmer realizes this per acre besides having the straw for fodder. We see no reason why in central places through Canada these canning factories cannot be established, as such would be doubly profitable; first, as a source of wealth to our farmers, and again as affording profitable employment to a large number of hands. Several parts of Ontario are especially adapted to corn—say the counties of Essex and Kent.

Whether it be for a general crop or for canning, we say to our farmers, Grow more corn.

Cattle Disease in Scotland.

[FROM OUR OWN CORRESPONDENT.]

The great question among our Scotch farmers at the present time is the prevalence of foot and mouth disease, the introduction of which into the country last month (February) has led to much inconvenience and loss among cattle traders. The distemper has been clearly traced to the introduction of diseased Irish store cattle, which were exposed for sale in an Edinburgh cattle market. It is not quite clear how it came that they were not seized before landing at Glasgow, but once into the country the disease has spread with alarming rapidity near all the great cattle centres,—Edinburgh, Perth, Forfar, and Aberdeen. Its appearance has caused great dismay among breeders of pure stock, but as yet none of our pedigreed herds have been attacked. Owners of this description of stock will however suffer considerably in their purse on account of the disease.

The great joint sales of pure-bred Shorthorn and Polled bulls at Aberdeen, Perth and other places, have, as a result of the stringent restrictions enforced by the local authorities of the different counties as regards the removal of cattle from one place to another, had to be abandoned this spring. Sales are still permitted at the farms where the cattle are bred, or at any place where they have been for fourteen days and where no disease exists; but cattle can not in the meantime be moved out of the county in which the sales take place. This precludes farmers from a distance attending these sales, and the competition being reduced, cattle breeders must suffer considerable loss. Every effort has been made to check the further spread of

the disease, which as yet is mainly confined to the Edinburgh district, where it was first discovered, and the counties of Perth, Forfar, Aberdeen, Banff and Moray, and as the distemper is of a mild type—there being a total absence of deaths among the cattle attacked—the authorities are sanguine that it will soon be clean stamped out of the country. Cattle are not allowed to be moved out of one county to another, except for slaughter, and in every case a declaration has to be signed by the owner that they are free from disease and have not been in contact with any diseased animals, before the inspectors will grant a license for their removal.

The traffic in lean cattle is virtually prohibited, and it is expected that this season prices for store cattle will rule very high, the ordinary supplies having been stopped.

Pleurisy-pneumonia has also, I regret to say, broken out with great virulence in two counties in the north of Scotland, and several herds which have been attacked have been killed by order of the authorities, the owners receiving compensation, to a certain extent, from the counties. These outbreaks of disease could not have occurred at a more unfortunate time for breeders, as they were hoping for good sales for their bulls and surplus stock, that in some measure would have made up for past losses. There is no doubt, had the country been free from this insidious distemper, that the sales of this spring would have seen a great rise in prices, especially as regards Shorthorn bulls, which have for several years been decreased considerably in value. About thirty of these were sold last week, and realized an average of over £35. This shows a great rise in value as compared with the last few years.

Altogether the prospects of farmers and breeders have been clouded in consequence of the lamentable spread of foot and mouth disease. They are waiting anxiously for the new land bill promised by Mr. Gladstone's Government, which they expect will give them some measure of relief, in that they will be paid for unexhausted and permanent improvements which they leave on their farms at the end of the lease. How these unexhausted improvements—in regard particularly to manures—are to be valued, has never yet, so far as I have seen, been satisfactorily settled. There are many disadvantages under which farmers in this country labor which could be dealt with in a thorough-going land bill, the removal of which would do much to stimulate agriculture. The bill, as far as is possible, should put the two contracting parties on an equal footing.

Farm work is well advanced, the winter having been favorable. Sowing (cereals) has just commenced, but will not be general for about three weeks.

Aberdeen, March 4, 1883.

Beautifying School Grounds.

In rural districts the old log school-house has given away to the more imposing brick and frame structures, and the unsightly snake fence to graceful picket and board fences. According to the school law, also, accommodation is required for ample play grounds. By a little attention on the part of school corporations to ornamentation and tree planting, a great good could be accomplished in training our young to a love of the beautiful, and also making their play grounds so attractive that instead of going to school being a hardship to our young tyros, it would become a pleasure. Besides the cultivation of this taste, important lessons in botany could be derived from the study of trees, shrubs and flowers.

Why then should not our school yards be made more attractive than they are at present? It

could easily be done without trenching on the space devoted to the recreation of the pupils; even planting a few evergreens would add much to the appearance, and when the proper season arrives, the native climbing plants from the woods, such as the Virginian creeper, can easily be procured; so can ferns and many native plants of great beauty, such as hepatica, Canadian lily and many others familiar to the children, which, when transplanted, grow freely with a little attention, and become brighter and better from cultivation. To these may be added hardy, perennial flowers, such as Lychnis, Phlox, Lupine, Sweet Williams. As a commencement these could all be planted around the school, and as the children's taste for flowers becomes developed, the cultivation of flowers might be extended.

The Orchard.

In planting our orchard we committed the same error that most farmers fall into, that is, in planting too many varieties. Most of them are good, but there is a difficulty in keeping so many assorted, and not having enough of some good leading variety to make a car-load of a kind. From our experience in shipping, we find that our profit has been derived from the best keeping sorts, and that our loss has been from those that ripen and decay too early. Our Russets and Pomme Gris have returned good paying prices every time. We had thought to increase the quantity of both these kinds, and reduce some of the early maturing kinds.

Our Nova Scotiā brethren appear to be rather in advance of us in Ontario in looking after the apple market and their orchards. They have better facilities for shipping than we have, and have made well out of their apple crops. They watch the market, and graft and re-graft their trees to procure the best kinds adapted to the British market. The apple that is now in vogue with them is

THE NONPAREIL.

This apple, from all we are able to ascertain, appears more profitable and more suitable for us to grow than any we have in Ontario. Our attention has been called to it by a subscriber, who was so much impressed with its value that he brought us one of the apples and a most satisfactory account of its hardiness, its quality, productiveness, and what is of great importance, of the enormous price it commands in England. We wrote to the Maritime Provinces to procure some grafts and also a description of it. We give the reply:—

Sir,—The Nonpareil apple is of French origin, having been brought from France and grafted into the natural fruit of this country. In appearance the Nonpareil resembles the Golden Russet, being about the same size and shape, but rather darker in color. The skin of the Nonpareil being tougher than that of the Golden Russet, is less easily bruised, consequently the Nonpareil will bear a greater amount of handling than the Golden Russet. The Nonpareil, if properly gathered and stored, will be found sound and firm as late as the middle of June, whereas the Golden Russet will show decay by the first of April. In the Nonpareil decay begins upon the skin, while in the Golden Russet it begins generally at the core.

As regards the cultivation of the Nonpareil, the trees are slow of growth, so much so that we have abandoned setting them out; growing instead trees of softer kinds of fruit. When these have attained a growth of eight or ten years, we graft into them scions of Nonpareil. In three years from time of setting the scions, the trees begin to bear, and will bear every year if properly cultivated. Scions of the Nonpareil may also be grafted into trees of a larger growth. A Nonpareil tree will yield about as much as a similar sized tree of Golden Russet. The Nonpareil ripens slowly, and will lose flavor if gathered here earlier than the last of October. For shipping for the English market the Golden Russet requires to be shipped not later than the first of March, whereas the

Nonpareil will keep until the first of May before shipping.

As regards the Pomme Gris, we do not consider them worth cultivating.

I will supply you gratis with all the scions you may desire, but they will not bear cutting until the first of April. Please inform me what number you require.

The samples I will dispatch by express at the time of mailing this.

H. E. T., Tupperville, N. S.

We intend to have some trees grafted, and will supply a few grafts to those of our friends who have ever sent in a new subscriber, or sent a valuable contribution to the *ADVOCATE*. We do not wish to make a profit in introducing this valuable acquisition to your orchards; neither have either of the gentlemen from whom this information has been derived; neither would any of you wish us to be a loser while doing you good. We therefore purpose this year sending a few grafts to those who may apply, when they send a subscriber or a communication. We will send a few scions to graft. The only remuneration we will ask is for you to send a 5-cent stamp to pay for carriage, packing and postage. As we have but a few of these grafts, we cannot include all our subscribers in this offer, but trust that those who procure them will in a few years supply our other subscribers in each locality with as cheap a means of procuring the scions as we afford them. Such a keeper must add to our wealth. The quality of the apple is good. We have had a few sent to our office, so you can see them if you call. So highly do we think of them that we instructed our artist to draw one just its natural size and form.

A Chatty Stock Letter from the States.

[FROM OUR CHICAGO CORRESPONDENT.]

The way American ranch property has been "booming" within the past twelve to eighteen months, is an indication that there is liable to be a drop in values ere long, and a very violent one if prices for ranch cattle and lands are boosted much higher. There is something of a mild excitement prevalent amongst small capitalists, and some large ones, about investing money in ranch stock. They see the great profits which have been made in the business within the past year or so, and do not seem afraid to "go in" at exorbitant prices; seeming not to take into consideration the fact that the stocks which are now returning 30 per cent. dividends were bought when values averaged 75 to 100 per cent. lower than at the present time. By far the bulk of the capital being invested in cattle and lands on the plains is foreign, mainly from Great Britain, and if there are not some blasted hopes about the time dividends are expected, it will be because the former were not very high, for certainly the latter will not be nearly so high as many anticipate. While it is true that even under adverse circumstances the cattle business of the West will yield larger dividends than many other investments, it is equally true that there is a great deal of risk in it. It is impracticable to provide and furnish food in the winter, and when the animals are cut off from water by ice, and from food by heavy snow falls, as they frequently are for long periods, the suffering and loss are terrible. It is a significant fact, that while there are large numbers of anxious bidders running all over the Western raising sections, endeavoring to buy ranch cattle, even at the prevailing prices, the men of the most experience and most money are quietly holding aloft, and allowing the crazy men to buy the stock at crazy prices. Moreover the most conservative ranch men, many who have been in the business several years and made handsome fortunes, are unloading their stocks and getting out of the business as quietly but rapidly as possible. They

go on the safe plan of buying when prices are low and selling when high. Prices may not be high; they may go higher, but no reasonable, disinterested observer is of any such opinion. With the advance in prices of cattle and lambs within the past few years, there has been a corresponding increase in cost of managing herds. The cow-boys now demand canned goods of all kinds and a somewhat extensive bill of fare, whereas they formerly were contented with plenty of hard tack and "sow-belly." Word comes from Southern Kansas and New Mexico that the cow-boys have demanded \$50 per month and board, and refuse to work for less.

The demand in all parts of the States for improved cattle, hogs and sheep, continues to increase, and Canadian breeders will probably be able to find a good market for all the fine stock they can spare.

The dressed meat system is not making quite so much stir as it did a few months ago, and the business of shipping live stock from the interior to the seaboard markets is not, and probably will not for a long time be superseded by this new system; but the practicability of the thing, and its manifold advantages, are becoming more apparent as the business of shipping dressed meats slowly but surely grows in public favor. No thoughtful person expected an instantaneous revolution in the trade. The amount of capital invested in the handling of live stock is too vast to be soon overpowered.

Rather extensive shipments of live cattle and sheep to Great Britain are being made from Chicago, but to my certain knowledge some who have contracted for steamer space, and are compelled to fill their contracts now, are losing very heavily.

Refrigerators or Ice Houses.

The vast improvement that science has brought to bear in the construction of refrigerators or ice houses, is such that its beneficial results must rapidly spread beyond the mere limits of the affluent, into the homes of the majority of our enterprising farmers,—not only for the comfort and luxury they afford, but for the actual cash profit that results from their use. The new beginner or new settler need not invest his means in such until he has other necessary comforts around him, but thousands of our farmers would find comfort and profit from the judicious use of ice.

Some few farmers have found the comfort and profit of even the old-fashioned ice house, but by the use of the new refrigerator ice house, of which we gave an engraving in our advertising columns (turn to it), you can keep your meat and fruit for many weeks. The profit or loss are too well known to many to need describing. If you have not adopted that principle, but use the old-fashioned ice house, a small refrigerator placed in the house is the most convenient.

There has been so much improvement in the construction of this useful and now ornamental piece of furniture, that the old plan of stuffing with sawdust has been abandoned, and air-tight spaces form the best non-conductors; even now the vacuums formed by double glass doors appear to be quite as effectual in preserving many things as in the old dark refrigerators. The present evaporators keep meat and fruit much longer than the old ones, because the new form of constructing them carries all unnecessary dampness out of the refrigerator. For dairies, fruit farms and butcher shops they must be indispensable, and those who use them will assuredly gain the advantage over those who do not. Even in butter, they would pay every farmer who has a good opportunity to sell his butter fresh to consumers.

Bryce Bros., of Toronto, Ont., have the control of the best plans, both for large refrigerators adapted to dairies, fruit establishments, or butcher shops. They also have control of the best house refrigerators, which may be seen by their having been awarded all first prizes for refrigerators at the Industrial Exhibition at Toronto. Send to them if you wish to procure the best plan for a large or small one. The best is generally the cheapest in the end.

United States Letter.

Washington, D. C., March 22, 1883.

The farmers of the United States—I mean the intelligent and thinking class—are somewhat agitated just now over the provision in the tariff bill, which recently passed Congress, reducing the duty on 1st and 2nd class wools. Those who have studied the subject say that it will let in the wools of Australia and Buenos Ayres, and destroy the wool industry of the U. S. The farmers of Canada can perhaps give some advice to the farmers of the U. S. on this subject, from their own experience.

A recent correspondent of the Department of Agriculture, in his letters from the islands of Alderney, Guernsey and Jersey, says that the very best grade of cattle are bought and sent to the United States and Canada, that their imported cows and bulls are better cared for in this country than on these islands, and that in a few years the pure stock raised from this imported stock in America will be superior to that on the islands of Alderney, Guernsey and Jersey. They use the sire at one year old and send him to the butcher at two years old. This breeding from an immature sire, he alleges, is gradually leading to bad results.

The Commissioner of Agriculture, in a report just issued on the "Numbers and Values of Farm Animals," says: "The increase in number of population, and advance in price of meat, have had a stimulating effect upon the stock growing industry. There has been in operation a strong tendency in the Northwest to reduce the area in wheat and extend the breadth of corn and pasturage. It is a healthful tendency, sustained by the fact of superior profit in the production of beef and milk, and encouraged by the uncertainty of wheat growing and reduction of rate of yield under the regime of continuous wheat culture. There has been a great advance in Dakota, Wyoming, Montana and New Mexico."

The average value of horses in the U. S. shows an increase over the valuation of last year of \$12; of mules, \$3.14. Increase value of milch cows is \$4.32; of other cattle, \$1.91. Advance in value of sheep, 15c. per head; in swine, \$1.20.

The report of the State Agent in Maine to the Department of Agriculture, which is just made public, gives some interesting items on the profits of cultivating and canning sweet corn, which might be of use in Canada. He says: "It is noticeable that at places where corn canning factories have been longest established, and as a consequence, farmers understand the growing of sweet corn better than when it was first grown by them,—there we find most numerous examples of large and profitable crops. These large yields come from giving the crop high manuring and good culture. In a favorable season 1,500 cans per acre are regarded as an average crop, but there are many instances where 2,000 cans to the acre are produced, and a few where 3,000 cans have been taken from one measured acre. In one instance a field of five acres yielded \$30 per acre; and another of three acres yielded \$105 per acre. The highest price ever paid by the canning company for one acre was \$126. The varieties of sweet corn grown are Early Crosby, Early Triumph, Early Minnesota, and some local varieties."

General Wm. G. Le Duc, late Commissioner of Agriculture, has, since his retirement from that position, returned to his agricultural pursuits in Minnesota. His earnest efforts to induce a more general cultivation of sorghum are well known. A prominent agriculturist now in this city from Minnesota says that the raising of sorghum in that State has proven very profitable, notwithstanding the vigorous climate and short season, which interfere so materially with the maturing of the

crop. Although the last season was unusually unfavorable, cultivators of the crop obtained a fair yield, which was made into good syrup and sugar. He says that those who raised crops of sorghum report that they made more money out of that crop than by any other kind of farming. As Minnesota has about the same climate as Canada, why should not its farmers cultivate sorghum with equal success? Near Cape May, New Jersey, a thousand acres were planted last season in sorghum in a white sand, which has heretofore been thought unfit for cultivation, and which has produced principally scrub pine and brambles for a century. To the astonishment of all, the yield of sorghum was enormous, and now factories are to be erected, and thousands of acres of this sandy waste, like a sea bottom, are to be cultivated in sorghum.

LOTUS.

PRIZE ESSAY.

THE BEST FIVE VARIETIES OF POTATOES GROWN IN CANADA, AND WHICH ARE BEST ADAPTED TO THE SOIL AND CLIMATE.

BY GEORGE NIXON, HYDE PARK, ONT.

Out of the multiplicity of different kinds of potatoes we now have, and which are being brought forward every year, it is, indeed, a difficult task to pick upon five varieties which would answer the requirements of the essay. From year to year we find our scientific potato growers bringing out some new varieties, and scarcely a seed catalogue is taken up but a speciality of some kind is made by our leading seedsmen. Some of those stand the test of experiment and are found to be an improvement on old varieties, while many more of them fall below the merits of existing kinds and are heard of no more. In recommending five varieties, they should be of well established reputation and such as the writer can warrant by actual trial.

As the essay calls for such varieties as are best adapted to the soil and climate of Canada, I shall assume that although the potato has a wide range of latitude, for it will grow from a southern to an arctic clime, yet its native element is a northern one, and the farther north it can be grown the better its qualities and flavor; and as the climate of Canada stretches from the forty-second parallel of latitude to the arctic circle, I shall consider the climate no more than by merely saying that any potato will, as far as climate is concerned, come to the highest state of perfection.

Then with regard to soil, nearly all our land will grow potatoes profitably; and we have land varying from a light gravel to a heavy clay. But a sandy loam enriched by firmer alluvial deposits; new lands filled with decayed vegetable matter, and those lately cleared and burned over, also limestone soils, are in my experience the best types of potato lands,—although, as I said before, any kind of soil will do. Heavy clay land, well broken up and thoroughly drained and manured, can be brought into an excellent condition and produce a good crop of potatoes. My experience in potato growing has been in a clay-loam of a limestone tendency, enriched by well rotted barnyard manure. For a number of years I have been experimenting, and have been growing nearly all the various kinds of potatoes that have come out. Since 181 I have raised the following varieties: Clarke's No. 1, Burbank's Seedling, Beauty of Hebron, St. Patrick, Susy, Peerless, Pride of America, Ruby, Bliss' Triumph, Mammoth Pearl, Improved Pinkeye, Early Ohio, Early Vermont, Superior, Late Rose, Early Rose. Supposing my soil average, which I think it is, and that the climate or temperature is average, being on the forty-second parallel of latitude, or London, Ont., the results of my experiments should be a guide to any part of the Dominion. The points upon which I tested the merits of these sixteen kinds, are: 1. Earliness; 2. Productiveness; 3. Quality; 4. Hardiness, or keeping properties.

The five kinds which I have found to score the highest in these four points are Clarke's No. 1—6 lbs. seed, 240 lbs.; Burbank's Seedling, 230 lbs.; Beauty of Hebron, 200 lbs.; St. Patrick, 245 lbs.; Susy, 275 lbs. The other eleven varieties fell short of these in productiveness. Clarke's No. 1 I found to be fully a week or ten days earlier than the Rose; to be of equal flavor, and much more prolific and have the same keeping qualities. At the present time, however, 9th of March, while I write I notice that they are sprouting consider-

ably, and for a late keeping potato it could not be recommended, but for an early potato and a general cropper I have found it superior.

The Beauty of Hebron I consider a well established early variety, and last year side by side with the Early Rose, I found the former exceeded it by fully 25 per cent. in yield. On examination at the present time the Hebron is firmer than the Clarke No. 1, and I should decidedly say, retains its keeping qualities longer. As a second early potato out of the 16 varieties mentioned, I have found the Susy to come in just in the nick of time to avoid the ravages of the bug. It is a quick grower, so the bugs appear to have no effect on the top; side by side with the other 15 varieties the Susy was very little affected, but I consider this arose from the fact that the vines missed the ravages from the first batch of bugs, which were killed by Paris green, and they were too far advanced to be injured by the second brood, which would be in time for the late varieties. I am satisfied for a second early potato the Susy has no equal. It is a beautiful pink on the outside and grows uniform and smooth and of excellent quality, and inside is as white as flour.

The St. Patrick, as a medium early, I found, in weight of production and cooking qualities, far exceeded all others of my 16 varieties. The appearance of this tuber itself in a market, allowing no other virtue, would sell it—having a white, smooth, silky skin. I found the fewest small potatoes in the St. Patrick of any variety, and, so far as productiveness, they came next to the Clark No. 1, and in quality and hardiness they have no equal. Of the late sorts (however, I do not recommend late varieties) the Burbank's Seedling turned out the best with me, and yielded next to the St. Patrick. As a standard, late variety, I am satisfied that the Burbank Seedling will become an established sort.

Though recommending these five kinds, I am fully persuaded that for a profitable crop farmers should not aim at growing too many varieties, and hence, out of the 16 varieties named, five have been picked as presumably the best, and out of these five I consider two kinds as sufficient for any ordinary farmer; and of these I recommend the St. Patrick as a medium, and the Beauty of Hebron as an early kind, as they are prolific, of good quality, hardy, and have more general good properties than any others, and are also potatoes that command a good price in foreign markets. These kinds are superior in productiveness and equal to the Rose in flavor and shipping qualities.

I need hardly say that whatever sort of potatoes is grown, and whatever merits particular kinds may have, culture and the judicious changing of seed are important facts in potato growth. Change of seed is a help, even the same kind of seed from a distant locality. Each crop takes something peculiarly its own from its soil, and more fertility is left for a foreign than a home grown variety. Although recommending the 5 kinds named, it would be well for my fellow farmers to test by experiment what varieties are adapted to their respective soils and localities, for each sort has its peculiar needs, and does well or ill as these needs are met with; a clay soil will suit a variety that will not succeed in a sandy or limestone soil, and vice versa. Indeed, I very much doubt if some of our so called new varieties are not the same as the old, only they have changed slightly by climatic influence and difference of soil. All our well known varieties which have done such good service are on the wane, such as the Early Rose; and the Garnet Chili has been lost to us for years, but we find the St. Patrick is only a descendant of the Chili, and the Beauty of Hebron has come from the Rose stock; and so with other new kinds, they are only improved sorts of the old varieties.

Although the mode of cultivation is not comprehended in the essay, from various experiments I do not feel satisfied in recommending any one particular method above another, hill or drill, deep or shallow planting. The results depend upon the season, the soil and culture. The best results I have found from ploughing old soil in the fall, harrowing in the spring, thoroughly manuring with twelve loads of short, well rotted manure to the acre, cultivating well in hills, 3 feet apart in the rows, and two feet six inches apart in the hills, and two sets in a hill. I cultivated twice each way with an ordinary one-horse scuffer, and hilled up with a double mould-board plough. I dig about the middle of September, and stow the potatoes away carefully in bins, in a well ventilated cellar, kept from 32 degrees to 45 degrees Fahr. Below 30 degrees the germinating power of potatoes is injured, and above 45 degrees it is set in action.

The Dairy.

About the Centrifuge.

BY JOHN GOULD, OHIO.

While it is possible under certain conditions to make the finest of butter from open pans, it is not probable that in the hurry of the 19th century that the time will or can be profitably spared to make perfect goods by this system. If cream can be thoroughly and perfectly separated from milk in from three to five hours by modern systems, the longer time of thirty-six to forty-eight hours can not be profitably spent in waiting for cream to rise in open pans, and so we may look about to find some plan by which the rapid separation of fats and serums can be secured, and as yet we can go no farther than deep, cold setting, or the centrifugal machine, now generally called the centrifuge. It is a system probably understood by all—the rapid revolving of a body of milk, causing the lighter portions, which is the cream, to give place to the denser, or serum elements, and as these last seek the circumference the cream is collected in a body at the centre of the cylinder and is "scooped" up. There can not be a particle of doubt but that the cream obtained from the centrifuge is the most perfect ever extracted from milk. This must be evident from the fact that all bodies forcing to pure cream will by specific gravity be whirled to the point farthest from that occupied by the cream, and purity is secured, and that to a nicety; and far better than straining, settling, or heating can, singly or combined, effect. If we are to inquire into some of the superior merits of this cream, we shall find that there have been no artificial agencies introduced to affect the natural gravities of the elements of the milk, and possibly alter after conditions, but the separation takes place at once, so that perfect milk must, other things being equal, produce perfect cream. With the creameries there is a closeness, or confining of the milk, and the shutting it up with its animal heats, which is often brought up as an objection; but with the centrifuge this can not be charged, as the milk is first, last, and all the time, in direct contact with the air; and during the separation the air is forced into and through the cream, so that the oxygen of the air has met every particle of the cream, and aired or "oxygenated" it, and the cream is therefore at the start of a uniform texture, and in perfect condition for either sweet cream butter, or the higher, sharper taste of the ripened cream.

It is well to know about the economy of the centrifuge as compared with the other systems, and if we take comparisons which are the published results of painstaking investigation, we find that the centrifuge gave an average gain of over 20 per cent. over every other system, which is of high importance to know. But if the skim milk is to be utilized for skim cheese, then the pans had better be substituted, for no plan that makes skim milk thinner and poorer for cheese making should be regarded as an improvement. If the milk is to be fed, then rob it of all of its fats, for cornmeal will, if mixed with the milk, restore it to its feeding equilibrium, and in this light the centrifuge is to be ranked as a great economist. There is yet another point that can be made against the centrifuge, and that is the economy of time. The capacity of the machine is limited, and beyond 800 lbs. per hour it is not possible to go with the separation. As milk should be separated from the cream within about four hours after milking, it will be seen that the centrifuge is first either adopted only for the home dairy, or, if used in the great creamery, a number of them would have to be employed, and then the question becomes one of cost, and it is probable that, until a

machine of greater capacity can be satisfactorily constructed, it is cheaper and more expeditious to use ice as a separating agent. It may be said that milk can be churned whole and at once, and thus save the expense of either the machine or the creamery, but whole milk butter has never had a popular "ovation," and never will until it can be freed from its over-abundant "foreign" matter, though it probably comes quite as near (the centrifuge excepted) of securing all the butter fats, as any plan yet devised. As several Yankees and other inventive gentlemen are at work upon a machine of larger capacity, it is not improbable that success will at last crown their efforts, and then there can be no question but the centrifuge will be the perfect plan of securing the pure cream from the milk, and that at least expense and dispatch. Why the centrifuge is not adapted to the farm dairy, is its expense and the necessity of a small engine, so that a steady and reliable motive power can be had, but the modern creamery, relying upon water made at a uniform temperature by ice, does its work fairly well, and at moderate expense, and for the private dairy it must always take the lead, and the centrifuge will be found at the great milk-buying creameries.

There can be no question but that the butter made from the centrifuge must, by its perfect separation from all foreign elements possessing a heavier specific gravity, be very pure, and if it is afterwards freed from the buttermilk by brine washing,—the only perfect plan in any case or system—a very long keeping butter must result. This cream is, in several respects, superior to any obtained by other systems, and can by different "ageings" of the cream give as results the delicate aroma of sweet cream butter, and all the other gradations of ripe, sour and "bitter" cream butter; just as the dictates of the consumer may order. This is accomplished in the start by the thorough and uniform airing of the cream, by forcing the air through it by the rapid whirling of the machine, a condition that our scientists now affirm is the true reason for the flavor or distinctive aroma of butter, rather than due to the action of acidity of the cream, which we will next consider.

Establishing Cheese Factories.

BY L. B. ARNOLD.

"What is the best mode of establishing and operating a cheese factory in a locality where a pretty large number of farmers own a few cows each, their main business being grain growing?"

There are two principal modes of establishing cheese factories.

One way is to form a joint stock company for the purpose of a site, erection of buildings and managing the business, making the amount of stock equal to the estimated cost of the plant. This stock is divided into shares, the same as is done in other stock companies, and the shares taken by those who are to patronize the factory, according to the amount of patronage they respectively propose to furnish. Officers are selected to represent the company and conduct its affairs, but the business of managing the factory is usually entrusted to an executive committee of three or five of the principal stockholders. This committee erects the buildings, employs a manufacturer and looks after the concern generally, keeping things in working order, and making all needful regulations. The company generally employ one or more salesmen, who sell all the products and distribute the net proceeds according to the milk furnished in producing them.

Another mode of establishing factories is, for one man, or a very few men, to build and own the

factory and the site, and to operate the same. When such a mode is adopted, the farmers of the neighborhood generally bind themselves to furnish the milk of a certain number of cows for a stated number of years, in order to secure the owner or owners of the factory against loss, or, at least, to share the risk with him.

Which of these modes is the better one depends largely upon the parties who enter into the undertaking. If the stock company contains a few large dairymen, who are active, intelligent and enterprising, and interested enough to look closely to the well working of the factory, the business can be carried on with less expense than in any other way, as it saves to the patrons all the profits of a middle man between the producers and purchasers. Generally, if one man who has a considerable interest in the enterprise, and is capable of managing the business, is made an executive committee and salesman, the stock company will be run with the least friction and expense. When the whole direction of affairs and responsibility all rest on a single, interested individual, he will, if he is not hampered with restrictions, execute the business of the company more promptly, and with better effect, than it can be done when a number of men are employed to do the same work and share the responsibility. What is everybody's business is nobody's business, and the larger the number concerned in the management of a factory the poorer that management will be. This has been the universal experience in stock companies run by large committees, and, as a consequence, about four-fifths of the stock companies are run in a shabby and unprofitable manner. The work may be distributed and distinct parts assigned to different men, but the responsibility for conducting each distinct part should rest wholly upon one man. One man only should do the selling, another man look after the condition and operating of the factory, another be treasurer, &c. Let each one understand distinctly what is expected of him, and he will appreciate the trust reposed in him, and he will execute it much more efficiently and faithfully than it would be done by a number of individuals, each one of whom feels that very little of the trust is resting on him. Though a stock company, when properly and skillfully managed, can be operated to the best advantage and with the least expense, the results of my observations in this line have been that, in nine cases out of ten, the factories owned by a single person have proved more profitable, both to the owner and the patrons, than have stock companies. As the owner of a factory depends on the farmers of the neighborhood for patronage, his interest lies in studying their welfare, and in pleasing them as far as he possibly can, and the farmers appreciating that the existence of the factory is a source of profit to them, will, in turn, be stimulated to give it aid and encouragement. How the two modes generally succeed is illustrated by the fact that factories owned by stock companies are very often sold out to a single individual, but a sale by a single proprietor to a company seldom or never occurs. When a single proprietor cannot make a factory pay, a company would have no hope of success.

The most common mode of operating a factory is for the owner or owners to manufacture the cheese by the hundred, that is, for a certain price for making 100 lbs. of cheese, the manufacturer furnishing everything besides the milk. The proprietor of the factory is not usually a cheese maker, but he agrees to make the cheese for, say \$1.25 per 100 lbs., and sub-lets it to a manufacturer for, perhaps 90c. per 100, the latter furnishing every thing but the factory and its tools and machinery. As the actual cost of making and furnishing, as

above, is only about 60c. per 100 lbs., the maker gets 30c. a hundred for superintendence and skill, and the proprietor gets 35c. a hundred for repairs and interest on the investment.

The most successful factories are those which are owned and operated by the cheese maker.

In a neighborhood like the one described the owner of the factory, whoever he may be, should deliver all the milk to the factory. It will counteract all the benefits of associating if each patron must deliver his own milk, or even is compelled to see that it is delivered. Routes should be established and teams employed by the season to do the hauling, and a reasonable allowance made for it.

While the mode of establishing a factory may vary somewhat the interests of the parties concerned, yet it is of more consequence to the farmers that a good factory be built than who should build it. Thousands and thousands of dollars are lost every year by not having curing rooms built with walls which will resist the passage of heat and cold, so that a temperature nearly uniform can be maintained within them. Early and late cheese are materially injured by the cold, and the midsummer make by being too warm, so that very little of the season's make gets cured without injury. The parties who suffer most by this defect are the patrons or producers of the milk, as the depreciated value of the cheese comes directly out of their pockets. It stands them in hand, therefore, to look after this point in the beginning, and to see to it that suitable rooms for curing their cheese are prepared.

Veterinary.

SIR,—Would you be so kind as to give me some information as regards a beast of mine, through the *ADVOCATE*? I have a heifer calf swelled up so we thought it would die in August last. We gave her physic, salts, condition powders and such medicine as we could think of. She is still living, though very poor in spite of every kindness, often swells up; sometimes loses her cud. Her skin is very dirty, though we washed her with soap and water several times; was covered with vermin. Sometimes eats well and seems to be in good health. As she is from a favorite cow we don't like to lose her.

W. H. E., Bair River P. O.

[We would recommend you to call in some competent veterinary surgeon, as yours seems to be a complicated case, and would need a careful examination before we could prescribe for your heifer.]

SIR,—Being a subscriber to your very valuable paper for the last three years, I take the liberty of asking you a few questions. Being a young farmer I look to older heads for advice. I have a valuable young mare, 6 years old, that will foal about the last of May. She is in fine condition. On Saturday evening, when I turned her out to water, she was so swelled under her belly opposite each flank that she could scarcely move. I am sure nothing was wrong with her on Friday. I feed her on good timothy hay and about three half-pecks of carrots and the same of bran a week, with a quart of oats morning and evening. I have not been working her for some time, but she has a run of a quarter of a mile, morning and evening, to water, when they generally run round for a half hour or so. Would that be exercise enough for her? Now would you please tell me what was the cause of the swelling and a cure for the same; and what is the best feed for a brood mare?

D. M., Cow Bay, Eastern Passage P. O., N.S.

[Young mares that are well fed are subject to become affected in the way that you describe. It will be necessary for you to reduce her condition. Do not feed her either oats or carrots, and give her a limited supply of hay. Allow her to have plenty of exercise. If the swelling continues and is painful, you might foment it with hot hop tea. It is likely to be swelled more or less until she has had her foal. It would not be advisable to put her through a course of medicine, for any medicine given that would have a tendency to remove the swelling, might cause her to lose her foal.]

Stock.

Practical Sheep Husbandry.

SPRING MANAGEMENT OF EWES.

With flock management, as with all other business pursuits, there is no time when affairs can be left to the vicissitudes of chance—no time when neglect is not punished by loss, and intelligent supervision rewarded with fair returns. Though at times the well-provided flock may allow its owner a short vacation, while his faithful subordinates enforce the details of management, there are occasions when no impulse but that of actual necessity should excuse his constant supervision. The three most important events in the annual round of flock management—coupling, lambing and shearing—present occasions when there should be centered about the fold sleepless vigilance and skilled and willing hands as well. In some respects the lambing season is the most important to the sheep owner; this is attributable, not alone to the fact that the thrift of the ewes during the remainder of the year is so intimately affected thereby, but to the equally important fact that the most considerable item of the year's income—that of increase in numbers—is dependent upon the care and good judgment now extended.

Few localities are so invariably exempt from unpropitious weather as to render safe an entire absence of shelter, liberally supplied with straw or leaves or hay for bedding, and a reserve of artificial feed within easy reach. If these are not required one season, they are ready for the emergencies of another. The chances are largely in the direction of such a necessity every year as will return a heavy interest on their first cost, and the expense of keeping them ready for occupancy. These shelters should be snug and close, and, better than all, dry, with openings for plenty of light and ventilation.

Ewes expected to yeau should, when possible, be separated from the large flock, and permitted all the quiet and comfort that can be secured to them. They should not be confined to shelter in fair weather, during the day, but should not for any length of time be from under the eye of the shepherd. At night, after a liberal ration, they should be provided with a good bed of straw, with plenty of room for moving about and lying down—say twelve to sixteen feet of space to each animal. Thus comfortably quartered, there will rarely be found a necessity for disturbing them during the night. With any but the gentlest flock the confusion attending the shepherd's presence will generally offset the effect of work he will be able to perform. The exceptions to this rule will apply in the case of valuable animals kept in small numbers. The ewe, while in the act of yeaving, seldom requires the shepherd's assistance; ninety-nine in a hundred will be better without him, if he has performed his duty up to that point. His presence may, however, be necessary to the welfare of the lamb. Occasionally one will be found too weak to get upon its feet. After it has been licked dry by the mother, if it does not stand up and take a supply of milk, the reasonable inference is that something is wrong. In such instances, usually, all that is necessary is for the shepherd to support it while gently holding the ewe. With a bait of milk thus secured it will generally gain strength rapidly and require no further assistance, in the absence of some deformity or imperfection. The experienced shepherd usually provides himself with a bottle of milk from a fresh cow, and with this in his pocket, is prepared for the emergency when finding a ewe without a sufficient supply of nourishment for her lamb. Ordinarily, with this for a day or two, and a liberal supply of proper food for the dam, the relations of supply and demand will be properly adjusted. If not, a foster mother may be provided from some of those that have lost lambs within a short time. With patience and good management this can commonly be accomplished in one or two days. A small pen—say 2½x3 feet square, is provided in some secluded corner of the shed, into which the two are placed, and occasionally looked after, until a reconciliation is brought about. Sometimes a ewe will be found to absolutely refuse to adopt a lamb, despite all the persuasive and deceptive devices brought to bear; but these are the exceptions, the majority being found quite tractable after twelve to forty-eight hours' manipulation. If a foster mother can not be had, the lamb must be abandoned or brought up a "cosset" on cow's milk. With plenty of milk, and a little patience in teaching the lamb to drink, such a course can be profitably pursued,

as lambs will begin to eat at an early age, and help themselves when food is placed within their reach.

The first two or three days of a lamb's life are its most critical ones. Once fairly on its feet, and well filled with its mother's milk, it may be safely accounted as half raised, so far as the natural risks of life are concerned. Few young animals gain strength and activity more rapidly than the lamb, despite its weak and helpless condition when first meeting the cold comforts of its new existence. As soon as possible both ewes and lambs should have access to green food whenever the condition of the weather will admit of the necessary exposure. By such change of food the flow of milk is materially increased, and the lamb early taught to earn its living by nibbling such tender blades of grass or rye as come within its reach.

It will be seen that success in spring management of ewes depends very largely upon conditions which must have been arranged in advance. Without such precaution, such arrangements as can be improvised may mitigate disasters but can not prevent them. "Good luck" in spring is largely the result of wise foresight and liberal preparation in advance; and no management, however intelligent or industrious, can reverse the rule, which will be found as inexorable as the decree that effect must follow cause. Of the shepherd, as well as the farmer, it may be truly said: "As he sows, so shall he reap."—[*Breeder's Gazette.*]

Raising Calves for Market.

About three years since, keeping a dairy of ten or twelve cows, and not having any facilities for selling the milk, also having a good deal of pasture ground attached to my farm, I began, in addition to what calves I bred, to buy some from dealers in the district for the purpose of rearing. I soon found I did not get a good class of calves, many of them turning out ill-bred animals, being bought of small occupiers, who in far too many instances think if they get a calf, all well and good, without paying any attention to what sort of sire is used. I therefore sought and obtained a supply of calves from a large dairy in the midland counties, where the milk is all sold, and a good Shorthorn bull used. I have drafts of these calves from Michaelmas to April, from a week to a fortnight old, as I want them; they are sent direct by train, and when they reach home are each put into a separate pen, and have about six pints of milk twice a day per head, after the first cream is taken off. In a few days they have a hod placed in each pen with shredded swedes in one part and cut hay and linseed cake in the other (a very small portion of each), which they soon learn to eat. They are kept on the milk about a month, by which time they begin to eat well, when they are put on one meal of milk per day, and gradually weaned; they are then drafted into a larger pen holding eight or ten, where they have what shredded roots they will eat, about half a pound of linseed cake, with cut hay mixed with bran and malt clums. When they get stronger they are put into a well sheltered yard, and about the middle of May those that were calved from Michaelmas to February are turned out in the daytime, and fetched up again at night, to have a few roots and their mixture of cake, &c. As the summer advances they are left out altogether, and after the hay is up, and they can get a run on a good clover land, the cake is dropped. They are then left out till after harvest, when, if the nights get cold, they are put into a yard with a small quantity of meadow hay. As the feed gets shorter and the roots are begun, they get turnip tops thrown into the meadows, till sharp weather sets in, when they have three parts of a bushel of shredded roots, mixed with corn chaff, per head, night and morning, with a run out during the day. Thus they are brought on till yearlings. The next summer they are turned to graze on the best pasture, and towards Michaelmas have an allowance of cotton cake, about five pounds per day, when they are shut up in the yards and fattened off with cut roots, cake, meal and bran. They are mostly gone when barely two years old.

I would mention it is best to part steers and heifers the second year, as the heifers often come to hand sooner, and will not unsettle the steers.

The calves cost me clear home about 50s. each, which, with 20s. added for cake, &c., bring them into yearlings, besides what they get on the farm. My experience is, you can keep double the quantity of stock than is the case if big bullocks were bought to graze. I have sold two yards of beasts this spring under two years old, averaging about £19 per head; have any quantity of yearlings coming on, and have reared up forty calves since Michaelmas.—[*Agricultural Gazette (Eng.)*]

Paris 3d.

The accompanying sketch represents the imported Aberdeen Angus bull, Paris 3d (2276), the property of Hon. M. H. Cochrane, Compton, P. Q. This famous animal stands at the head of Mr. Cochrane's herd. He was bred by the late Wm. McCombie, of Tillyfour, so well known as a breeder of the Aberdeen Angus cattle. The sire of Paris 3d was one of Mr. McCombie's famous collection at the Paris Exhibition, where he won the highest prize as a two-year-old. Paris 3d was the first prize yearling at the Royal, Northern, and Highland Societies' Shows in 1881, and was purchased from Mr. McCombie at 150 guineas.

Paris 3d is a model of his class, being long, low, level and wide, and of a vigorous constitution. We can certainly congratulate Mr. Cochrane on

Feeding Young Pigs.

When about three weeks old, the young pigs begin to look after other food than what the mother supplies—some earlier, some later, according to the supply. Some breeders tempt them early with delicacies, to induce them to feed; but I never knew any benefit from this course where the mother did her duty. To enable her to do so, it is necessary that her wants, which, with the great drain her family makes upon her system, are by no means limited, should be freely and judiciously supplied. A long, low trough, easily reached by the youngsters, is the proper one if all are intended to feed together; but perhaps the best course is to provide a small trough for them, to which she cannot get access, always giving the same food to the young as to the dam. I am convinced that food differing in quality or composition to what the mother feeds on, always does harm to the young pigs while they continue to suck. Many thus give cow's milk, which always with me has disagreed

quently from the third to the fifth; and as at these times she evinces less ardour, and continues in season a much shorter time than at others, she needs careful watching, so as not to miss her.

REARING YOUNG PIGS WITHOUT THE AID OF THEIR MOTHER.

From numberless causes it may happen that a litter of pigs are deprived of their mother's care. They need not, however, be sacrificed; for, when proper attention can be bestowed upon them, they are by no means difficult to rear. It is, however, a great advantage to them, if only once they can partake of their mother's milk, as nothing is so effective in clearing away the meconium as it, and those that have had the milk will do much better than those not so favored. Cow's milk, as may be supposed, is the best substitute to replace the mother's, but not in its natural state. Though they may do well on it for a day or two, those so kept by me have always, at the lapse of a couple of days, gone into a sort of lethargic state, and died.



ABERDEEN ANGUS BULL, PARIS 3D, PROPERTY OF HON. M. H. COCHRANE, COMPTON, P. Q.

the selection of such an animal as Paris 3d as the head of the Hillhurst Herd of Polled Aberdeens.

It is the intention of Mr. Cochrane to dispose of a large number of his Aberdeen stock in connection with the Leonard Bros., of Mt. Leonard, Mo., at Kansas City, Mo., on April 25th, 26th, 27th. Some ninety head of bulls and heifers will be offered for sale, including the best bred stock in the country. The females are nearly all in calf to Paris 3d, and some of the heifers are sired by him. This sale promises to be the most important of its kind ever held in America.

A cow will give more milk and make more butter on a bright sunny day than during one of a dull, dark character. The animal eats more heartily, digests better, while the vital forces are active during the pleasant day. These facts are not, in themselves, very important, yet they suggest the query whether close stabling of cows in winter or summer is better than giving them the run of a yard or pasture lot.

with them more than anything else, except it has been given to both alike.

If it is obvious from the first that the mother's milk is deficient, or indeed in any case, it is well to supply the young when a fortnight old with a few crushed oats to amuse themselves with. These they will generally eat before anything else, and it is about the only corn that given thus early will benefit them. The mother may also have a share of the treat, as this will help her to keep up her strength; and the young ones may be enticed, as soon as possible, to partake of the food supplied to their mother, in this case consulting their taste and requirements. But, if it is found necessary to feed them differently from their mother, better take them away at once and bring up apart from her altogether. What she furnishes will only disagree with what is otherwise supplied.

WEANING TIME.

If all goes on well, eight weeks after birth the young may be weaned. The sow then may have food with less moisture in it, and a little corn will help to dry up her milk, and dispose her to come quickly in season. This, as we mentioned before, will be from the third to the ninth day, most fre-

The milk must be from a moderately new milch cow, and of good quality—a milk rich in butter rather than caseine is to be preferred. It must always be boiled or well scalded, and to it must be added some coarse brown sugar, so as to make it sweet, and also a few spots of linseed oil, say a heaped dessertspoonful of sugar and half teaspoonful of oil to the quart. Upon this the youngsters will thrive amazingly, and hardly miss the care of their mother. Of course, they must be kept clean and warm, and be attended to and fed as often as they require, which truth to tell, is rather frequently; about every two hours, or even oftener for the first week, night and day, they are ready for food, and require it. The greatest care must be taken not to let any of the vessels, &c., get sour; and only the required amount of food should be prepared at a time, as if it becomes at all sour, and their systems are once upset, it is a most difficult matter to get them right again; and all thrift is for a long time lost. The first time or two a teaspoon is the handiest thing to feed with, but in a few lessons they will learn to help themselves out of a basin or cup; and when two or three days old, will all feed together off a plate with as much selfish eagerness as their elders betray.

In early days no young animal can assimilate starch; but with age comes this faculty, and in a little time new milk may have skim added to it, and likewise farinaceous matters—potato starch, scalded bread at first, and afterwards boiled potatoes, scalded fourths, and gurgins—till eventually they feed as others who have not been hand-reared. It is well to continue a portion of new milk as long as it can be afforded, or up to 6 or 7 weeks old; while skim is by no means an extravagant food. A little sugar may also be continued to a similar age with advantage. Of course, it must depend in great measure upon the conveniences and facilities for so rearing a litter, and also upon the value, whether it is worth while to go to the expense and trouble or not. But when opportunity offers, and where good pedigree stock are kept, undoubtedly it will pay so to do, and even ordinary stock, when selling at fair prices, will leave a margin over expenses for the trouble incurred. For pigs so reared, some crushed oats, soon as ever they will notice them, will be of great benefit; and sliced raw roots, cabbage leaves, cut grass, &c., may be supplied with advantage directly they will take to them. It is well to ring with a small hair-pin or fine ring very quickly, as all pigs that are early deprived of their mother are apt to contract the habit of rooting and nosing at each other, which habit prevents the repose and contentedness that so much assists growth.

I have more than once reared young pigs with great success upon the plan here mentioned; and it is well to know that should a sow be lost, or from any cause be unable to suckle all or any other litter, they can be reared without maternal assistance. Nay, I have seen more than once the hand-reared pigs, at eight weeks old, considerably larger and better-grown than the remainder of the litter, which had been under their mother's care. And this is sufficient proof of the feasibility of the practice.—[Live Stock Journal.

The Black Welsh Cattle.

A correspondent of the London, England, *Live Stock Journal* says, concerning this breed:

"No cattle will withstand cold and wet with greater hardihood than the blacks. Their home is in a stormy clime. South-western storms of fierce winds and pelting rains sweep inwards from the Atlantic in the winter season with persistent frequency—beating on the bleak hill-sides where the robust Blacks roam in the fields, their only shelter being the earth-banks of the enclosures. Cows and heifers frequently calve in the tempest or kneedeep in snow with apparent comfort and without injury to their offspring. Pimpernel appears to think that highly-bred Shorthorn calves, if submitted to the hardening process from birth, would, at maturity, be equally as hardy as the native cattle. But surely we have learnt nothing of late years in the history of the development of species, if it is possible for the produce of pampered generations of Shorthorns in one life-experience to become as hardy as the descendants of stock that has been exposed in the fields for ages to the rigours of a bleak and tempestuous climate.

The Blacks are a most useful dairy stock. They have a good flow of milk, of more than average good quality. But as I am not at present writing a complete treatise on Welsh cattle, I shall not extend my observations on their dairy characteristics—so eminently adapted to the requirements of the dairy farmer of South Wales.

The improvement of Black cattle must come from within, not from without. To quote from my-

self (not to copy verbatim from another), I may say that I have seen several attempts to improve the breed by crossing. When any cross is made with the Hereford, the offspring have short black coats and white faces, and it takes several generations before a blaze down the face or a star on the forehead disappears. A cross with the Devon was more successful. I mention a special instance on my father's farm. He sent a black cow to an imported Devon bull. The produce was a black bull-calf, that grew into great size, and was, after his first season, sold at a country fair. Many of this produce also were of large size, and as often occurs in crossing, larger than either of the breeds from which the parents were derived. A few, but very few, red calves cropped up in his descendants. The experiment was not continued long enough to determine correctly the value of the cross. A cross with the West Highlands was tried on several cows in the same herd—one well-known and of high repute in Pembroke to this day—but the produce, though much sought after in the fairs by butchers, were too small, and the strain was ultimately discarded. The cross with the Anglesea black cattle introduced by Mr. Richard H. Harvey,

Poultry.

Black Hamburgs.

The accompanying engraving represents a pair of Black Hamburgs, owned by Mr. Frank Shaw, of London, Ontario. These birds are prize-winners at the different poultry shows in Canada and the U. S. The black are amongst the finest of the Hamburg species; the general color of the plumage is a jet black, each feather terminating in a velvety green spangle, which gives a rich, glossy appearance to the plumage. Although in disposition the Black Hamburgs are rather wild (originally being called Black Pheasants), yet as layers they are unsurpassed, and in constitution they are superior to either the pencilled or spangled breeds. We have had an opportunity of seeing Mr. Shaw's birds, and we consider them the finest birds of this class we have seen.

Preparing for Hatching.

We often make mistakes when we neglect the sitting hens. A hen while sitting should be cared for as regards feeding, watering, etc., as much as while in a laying condition. When she is confined without having a chance to change her position or get out to dust and exercise her stiffened limbs, she becomes overheated, feverish and uneasy, and will often stand up to rest herself.

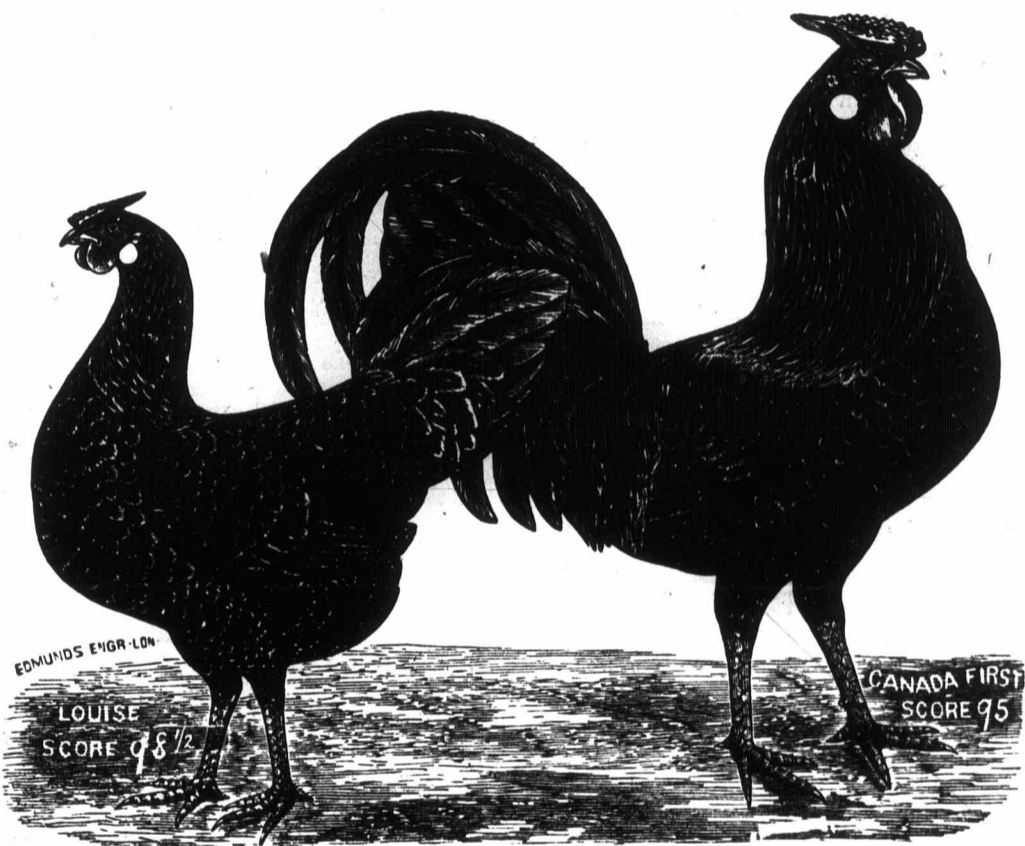
Much could be said about making nests, but as the internal arrangements of hen houses and hatching places differ, no one way of making or preparing them for the sitters would be suitable in every case. It is more sensible, and to us more judicious, to make the nests upon the ground floor or placed down quite low for the heavier varieties; and for the smaller breeds the nests may be higher, as these sprightly hens can easily fly to their boxes.

To make a suitable nest for sitting hens requires a little experience and ingenuity. A large number of nests are illy constructed; they are too small or too large; too deep or too shallow. It would be well to follow nature in this as in other things. A little practice and close observation of the eggs as they lie in the nest when the sitter is off, will enable one to strike the happy medium.

Another point that should be observed when making nests, is to study the posture of the hen, with a view to her comfort for the three long weeks of incubation. A little damp earth on the bottom or an inverted sod, moulded in proper shape, with broken straw to cover, and the whole nest sprinkled with sulphur, and the hen with insect powder, will go far to make her comfortable.—[Poultry Monthly.

Early hatched chickens are more vigorous than those produced later in the season, when hot and dry weather addles half the eggs while incubation is in progress. It is more trouble to care for the very earliest chickens during cold, wet weather in March or April; but the cockerels will bring fancy prices as early broilers, and the pullets will be good layers next winter.

Your hens cannot give you eggs if you do not feed them lime, chalk, or pounded eggshells.



BLACK HAMBURG, OWNED BY MR. FRANK SHAW, LONDON, ONT.

from careful interbreeding with the native cows, has been tolerably successful; but I believe had he shown the same enterprise in improving the Pembroke, without going so far north, he would have done equally as well, if not better than he has—and without introducing a foreign element, always a source of distrust, if not of danger, when dealing with such an old typical breed as the Pembroke or Castlemartin cattle.

A New Departure.

A French correspondent of the *Michigan Farmer*, in speaking of the Paris Fat Cattle Show, says:

"A curious innovation deserves to be recorded. The prize stock has hitherto been purchased by butchers, whose names were duly placarded over their acquisitions. At present they are the keepers of hotels and restaurants who compete for the animals, in order to have the right to advertise their addresses. Indeed one of the leading dry goods stores of the capital, and one which has 1,000 employes who are daily fed in the establishment, purchased the ox honored with the blue ribbon. A premium to customers in the shape of a rump steak or a plain joint, would be a greater novelty than a toy balloon or a bouquet of violets."

English Southdown mutton derives much of its fine flavor from the sheep's fescue, which forms a great part of the pastures.

Garden and Orchard.

Gardening Hints for the Month.

Sow beets thickly in the rows, as the thinnings make most delicious "greens;" use the Early Turnip for early, and Long Blood, or any of the later sorts, for late "greens."

Remember, in sowing onions or any slow germinating sort, to sow a few radish seed with them. The radish comes up quickly to show where rows are and where to hoe, and are out of the way before beets, &c., get much size.

It is a waste of ground to use it only for late beets, onions, &c., as rows of lettuce and radish can be sowed half way between, and off out of the way before the later stuff will require the ground.

If ground is scarce, peas can be sowed half-way between potatoes, cucumbers, &c., and be out of the way before these come on. Winter radish can be sown on ground where early radishes or lettuce comes off, as also turnips.

Clean up the asparagus bed, and fork all over the surface well with a fork or spade; scatter on a quantity of coarse salt—say a bushel to the square rod, or pour on the refuse brine from the pork and beef barrels.

Clean up and dig about the rhubarb or pie plant, and if you want long tender stalks, make some heavy plank frames a foot and a half square and a foot high, and fill with rich leaf or wood mould, or well rotted manure. As soon as the ground settles, and before the weeds start, clean out the strawberry bed and mulch well with clean straw or hay.

If you have not done it before, put some boards up edgewise, forming a frame 6 by 6, or 6 by 12; fill half full of fresh manure and pack down well; cover with two inches of good rich loam, and sow thickly in rows two inches apart, onions, beets, parsnips, lettuce, cabbage, etc., and transplant to the open ground next month. It will be no more work to transplant it than the first job of weeding and cleaning will be if sown in the garden bed; and, besides, you get a much longer growth.

Have peas sown immediately and plant out early potatoes. We usually sow our peas in succession from April 1st, and thus have a succession of this most delicious dish. Sow celery in a warm soil, partly shaded.

If you have not any strawberries, raspberries, etc., be sure to plant them out this spring. 300 strawberry plants, 2 doz. raspberry plants, 2 doz. blackberry, 6 to 12 grapes, and 2 doz. currants, will keep your table filled continuously from the first strawberries until frost comes.

Frames two feet square, six inches high, and covered with oilcloth, are fine for covering the hills of cucumbers, melons, etc., in cold and cloudy weather. Plant out trees as soon as possible after the ground settles. Be sure to set a few clumps of evergreen and deciduous trees here and there over your premises, but not so as to hide the view from or to the road too much.

Don't set too large trees: the larger they are the more it will mangle the roots of such to be removed. We would not care to set larger evergreens than three or four feet in height.

If the old wood is not cleaned out of those blackberry and raspberry bushes, attend to it at once, and cut back the new growth to four or five feet, if not before cut back.

Get the flower-beds arranged and laid out, and if already done spade them over. Start the seeds and spring bulbs in pots and boxes in the windows or under a sash or two. A lady said to us a day or two ago, "Dahlias don't do well with us, as the frost cuts them down just as they are in bloom." A month earlier bloom can be had by putting the roots in a box of mould, and keeping them in a warm room, and as they sprout to transplant to their place.

Morning Glories, and such running annuals, should certainly be started now in pots or small boxes in the window, so as to be transplanted as soon as frost is over.

Evergreen seed can be sown any time this month, after being soaked in hot water and then mixed with dry sand and rubbed evenly, so they can be sown without sticking together. Keep the soil well watered and shaded, especially after they sprout above ground.

If you have no asparagus bed, be sure to start one this spring, by planting the roots 8 to 10 inches deep in trenches, two feet apart, and one foot apart in the trench.

Trim out the old dead wood from your rose

bushes, and give them a shovelfull of well-rotted compost.

Start melon, cucumber and such running vines in this (42) latitude, in inverted sods, packed close together in a hot-bed, and when nicely up transplant, covering with boxes.

Whitewash the trees now, clear away the surface soil from around the peach trees, and with a crooked wire and knife dig in and kill the grubs, and then throw a quart or two of ashes around the tree, if small, and if large a peck or so (unleached ashes).—[Fruit Recorder.]

Cleaning the Trunks of Fruit Trees.

Now, before the warm weather gives life and motion to many insects who use the bark of trees for their winter quarters, is as good time as any—and before active outdoor work begins—to clean off all the moss and superfluous or old bark from the trunks of trees. Not only the insects, but their millions of eggs, and the seeds of various blights and mildews, are sheltered in the crevices and rough places of the old bark, moss, &c. It should be taken for granted that the appearance of the vegetable organisms on the stems of trees, as well as upon the bark of the trunks, shows that something has already gone wrong. Something has prevented the tree from thriving as it should have done, and because it did not thrive the moss followed. When, therefore, we make up our minds to look after the moss, it will be as well to find out what is the matter with the tree, and if possible place it in a position to throw off as it grows the dead bark on which the mosses and sickness feeds.

The stunted condition of the trees which induces mossy and hide-bound bark is more frequently the result of starvation than of anything else. When a tree does not expand fast the bark is not thrown off, but remains on the tree to slowly decay; but with a rapid expansion it is thrown off as the tree swells, and thus keeps its own self clean. Starvation keeps the tree from growing. A liberal supply of good food, making a tree thrive and expand rapidly, is one of the best means of keeping a tree clean and clear of moss.

When a tree has once got into the hardened condition, mere manuring will hardly get it out of it alone. In such cases good orchardists make use of a liberal application of the pruning-knife—cutting away all the branches that may seem to be pretty well hardened or stunted. This brings on a free growth of foliage the next season, and a free growth is one of the best ways to keep the main stem clean.

Much can be done in the early spring with these old starved and stunted trees towards getting them to do better. The loose bark may be scraped off, and even washed with weak potash water or soft soap. The branches which seem gone beyond recovery, or are too weak or so much stunted as to promise little in the future, may be cut away; and some good fertilizing material may be hauled and spread upon the trees.

As to what is a good fertilizer for fruit-trees much has been written, but we believe for the apple and the pear almost anything that comes conveniently to hand is good. We knew years ago one very successful apple-raiser who used nothing whatever but ashes from the kitchen. These were always saved expressly for his apple-orchard and spread evenly on the ground under each tree. It is commonly said that there is no nutrition in anthracite coal-ashes, and perhaps there is not; but it is a fact that these trees grew amazingly, and bore large crops of the most beautiful fruit. It may be that the wood ashes from the "kindling," and perhaps some kitchen refuse among the rest, were the chief fertilizing ingredients. Be that as it may, this orchard was a grand success. The bark was always smooth and healthy looking, without any washing or scraping. Nothing in the orchard-line could look better. We have known others who used simply ditch-cleanings, or good top-soil from wet places, and always with considerable increase in the apparent health and vigor of the tree.

Before filling up vacant places in the orchard with young trees, it is best to think whether the full grown trees now standing will not with good manuring bring more fruit than a larger number would. Most of our orchards were planted too closely, and the tree roots interlace so as to rob each other of what fertility each should have.

Lettuce.

There is not more than one person in ten who undertakes to raise lettuce, succeed in doing so as it should be raised. They don't know what a head of lettuce is. They know all about sowing the seed early in a warm border, and pulling it up when it gets about two inches out of the ground, when it makes a very good salad if properly dressed; but it soon gets too large and tough and loses all its delicacy. But what we mean in raising lettuce, is to grow it in heads, like very small heads of cabbage. The way gardeners do this is, that after sowing an early bed of lettuce-seed, to set out the plants say from ten to twelve inches apart each way, and attend to them as one would cabbage. These heads will supply the family for from four to six weeks, when the weather will become too warm for them and they will run up into seed. But the Early Cabbage Lettuce, commonly called the "butter salad," the seed of which is the first to sow, should be followed soon afterward by sowing a small bed of the Curled India, and the plants set out when they are large enough. This is also a most excellent variety and will stand the hot suns much better than the other, and especially so if transferred where there is little shade.

Transplanting Evergreens.

There are few gardens of any considerable extent, either in the suburbs of towns or remote country districts, in which evergreen shrubs are not grown. The home surroundings of clergymen, merchants, professional men, and farmers, cannot be rendered to the fullest degree agreeable and attractive without a collection more or less large and varied of the shrubs in question. Handsome, well-tended specimens are beautiful in themselves, and are at the same time valuable for affording shelter and for masking any unsightly object; in short, evergreens are indispensable for furnishing satisfactorily the gardens that are attached to mansions and villas, and for imparting to them a warm, cheerful, and refreshing appearance that is always admired and enjoyed.

But an important fact must be noticed. If evergreens are planted by thousands every year, they are spoiled by hundreds for the want of timely thinning and transplanting. If we examine the banks and borders which flank the carriage drives and approaches to pretty residences, we find in more than half of them the shrubs that might be made beautiful, on the road to ruin. At the time they were planted they were not too thick; but the growth of a few years has altered the whole aspect of the case, and a few more years of neglect or inaction must inevitably result in loss and disappointment.

Perhaps no greater mistakes are made in anything than in planting trees and shrubs; but when mistakes in arrangement are perceived in time they may be easily rectified, for even large specimens may be successfully transplanted when the work is done at the right time and in a proper manner. A good period of the year for removing evergreens is the present month, and the right method of doing the work may consequently be usefully described.

The first point to be attended to in transplanting evergreens is to carefully examine, consider, and determine which shrubs it is desirable to remove. This should be finally settled before a spade is put into the ground. The next point is to decide on the positions they are to occupy, so that the ground can be prepared and stations provided before any attempt is made to dig up the shrubs. Of all the evidences of bad management and ill-considered action, none is more glaring than digging up a valuable tree and then having to "look for a place for it." Of this extraordinary mode of procedure we see examples far too numerous every year; it therefore becomes necessary to mention it for the purpose of condemning it, and the practice is hereby formally and emphatically condemned.

Having selected the site for a particular shrub, let an estimate be formed of the spread of its roots, and then dig a hole sufficiently large that these when spread out will not reach within a foot of the sides. Let it be deep enough—in fact, err on the side of making it too deep, as soil can be more quickly thrown in than excavated, so as to provide the exact depth required. The base should be broken up, so that the water can pass through freely, and the centre of the hole should be, as a rule, higher than the sides. Usually the reverse of this is seen in preparing for planting, and the plant rests in a hollow, not on a firm base, and its roots are bent upwards. This is utterly wrong; it

should rest firmly on a slight hillock, so that the roots can be spread out almost horizontally, yet pointing slightly downwards. Then if the work of removal and transplanting be well done, the shrub will flourish.

In preparing to dig up a specimen, first place a cord round the branches, and secure them in an upright position for affording room for the workman; then commence the work of removal. At a distance from the stem of about one-third the height of the shrub dig out a wide trench quite below the roots, then undermine with a fork, throwing out the soil constantly, so as to have a clean trench. In this way the removal is accomplished with the least possible injury. Secure as much soil as possible with the roots, at the same time not attempting to obtain too much, or it will break away when the shrub is drawn out of its place. This is a matter for individual judgment, and must not be overlooked. All injured or jagged portions of roots must be cut off smoothly with a sharp knife. Now determine the depth required for planting, and prepare the station accordingly, making the base very firm; when the planting is finished the surface of the soil over the roots should be slightly higher than the surrounding ground to allow for settling, and the stem should not be covered deeper than before. Before filling in the soil spread the bottom layer of roots out quite straight, casting the soil on them in the same direction in which they point; if thrown in the opposite direction some of them will inevitably be doubled up, which is very undesirable. Work the soil well amongst them, pressing it firmly, then treat the next layer in the same manner, and continue until the work is completed. When the soil is half filled in, flood it with water, to settle the particles round the roots; add the remainder to make firm, and the work is done.—[Mark Lane Express.

Value and Culture of the Gooseberry.

A horticultural correspondent of the *N. Y. Tribune* says of this fruit:—

“Many acid fruits and juices, such as those of the lemon, the edible passion-flower, the currant, Kentish and Morello cherries, rhubarb and green gooseberries, are intolerably sour in themselves, yet greatly valued for the appetizing and refreshing flavor which they give to sugar. Among all these there is none with a more piquant and delicious flavor than the gooseberry, so used three or four weeks before its full maturity in July. But to enjoy all the relish of this fruit it should be full grown, and when it is grown it is withal one of the handsomest shrubby ornaments of a garden, both in form of bush and in the rich color of its dense and deep green foliage. To have it in this condition the soil should be good and well mulched, and fully four feet in surface diameter should be allowed to each bush, altogether for itself, without the intrusion of any foreign root or tree or weed. An annual pruning or thinning into round shape, with the points of the shoots at least six inches apart, and removal of weak, unripe ends, should be supplemented by thumb and finger suppression of new shoots, which are apt to overcrowd the base.

“A spreading or drooping kind can be aided greatly by using a hoop supported by three or four stakes to keep the loaded branches from the ground. And last, but not least, look out for the currant worm which opens its campaign upon the gooseberry. Just as the blossoms begin to merge into the first appearance of fruit, look at the lower branchlets by turning them into view. If some leaves are eaten in notches the enemy is there, and it is nip and tuck between these scarcely visible crowds of worms and the great master worm who is looking at them, as to which shall get the gooseberries this year, and have a chance for gooseberries next year. The big worm can do either of two things. He can let this brood, and one or two later ones to follow, go on eating and growing undisturbed, and so surrender all his own enjoyment of the plant and fruit, or he can spend two or three minutes of the dewy morning in dusting the occupied leaves with hellebore, which will speedily send every tiny devastator to a sleep that knows no waking.”

In setting an orchard it is well to get it on upland, not only on account of better drainage, but also because trees set on alluvial soil make a growth of leaves and wood rather than of fruit. On low ground the fruit will often be large, but not so well colored or highly flavored as on upland where the wood growth is smaller, and both leaves and fruit have a fuller exposure to the sun's rays.

A Clean Fertilizer for Strawberries.

The accumulations of horse stables and cow stables are usually full of the seeds of several kinds of grass; and many times there will be present a sufficient number of the seeds of noxious weeds to cover the entire ground with young plants, after the seeds have germinated. Composting coarse manure for one or two years will not destroy half the seeds among the manure, unless the compost piles are allowed to generate a degree of heat so high that the value of the manure will be greatly injured.

To avoid the annoyance incident to weeds and grass, my own practice has been, during many years past, to fertilize the ground where strawberry vines are growing by the application of oil meal and wood ashes spread about the plants and worked into the soil. The growing vines will find all the essential elements of fertility in these substances, both for making strong and vigorous plants and for developing large and beautiful berries. These substances can be applied at any season of the year; and one may distribute a generous sprinkling about every plant without fear of producing weeds or grass, or injuring the growth of the crop by too much manure. Still the better time to apply such fertilizers is late in the autumn, so that all the elements of fertility in the coarse materials may be rendered available before the next growing season.—[American Garden.

While we would have farmers plant currants, strawberries, and other small fruits in the old fashioned way in the vegetable garden, rather than not have them at all, it is so much better to appropriate a separate place for them, and we advise all to do so. Select the best soil, and all the better if not far from the house, as the bushes will be better guarded and tended, and be more convenient for picking.

Blackberries should be set out very early. Six feet apart each way is a good distance. Set a stake six feet high to each. See that plants that are to bear this year are well tied to the stakes.

Currants.—If new bushes are to be set, let them be four feet apart. If old bushes were not pruned do it at once, before the leaves start. Thin out the old wood, and shorten back the growth of last season at least a third. By manuring, the size of the fruit may be much increased.

Raspberries.—Tender kinds that were covered last fall, should be lifted and tied to stakes or a horizontal wire when the weather is settled. Plant a new bed very early.

Strawberries.—If new beds are to be made, do it as soon as the ground can be worked. Give a generous manuring, and work it in deeply and thoroughly. As a general rule, the best distance for the rows is three feet apart, with the plants a foot apart in the row. The Bidwell and Manchester are among the leading recent varieties. Sharpless and Charles Downing are well tested and excellent. The catalogues give many others. Old beds that were covered should have the straw removed just over the plants, to expose them to the sun and air, leaving the mulch on the ground until after the fruit is gathered.

Grape Vines.—If any were left unpruned last fall, attend to them at once. If cuttings were made and placed in the cellar, it is a good plan to bury them, lower end up, in a place exposed to the south, covering them with about six inches of earth. By the time the earth gets warm, they will usually be calloused, when they may be set right end up in trenches, placing them six inches apart, with the upper end just at the surface. An easy way to multiply the grape is to layer a cane of last season's growth; open a trench six inches deep, and lay down the cane in the bottom of the trench, using pegs to hold it in place. When the eyes start, add a little soil, and as the shoots grow, gradually fill up the trench. In the fall, each shoot will be a good vine.

Grapes in plenty should be found on every farm. Barn, sheds and other buildings will afford support for the vines. Plant some good sorts this spring wherever there is a place.

An Ohio man, who has had long experience with sugar-maple trees, says that trees on land sloping to the north should be tapped on the south side, while trees on land sloping in an opposite direction should be tapped on the north side.

Soaking Seed.

A correspondent of the *N. E. Farmer* gives his opinion on the soaking of seeds, in the following terms:—

“I am often asked whether it does any good to soak seeds before sowing them? In general I believe it does more harm than good, and if done at all, a good deal of judgment should be used to prevent mischief. Thus peas, beans and corn are often soaked to hasten germination, with the belief that they will come a day or two earlier; but in case the weather is cold and wet for some time after sowing the seed, it will be more likely to suffer injury from the weather than if sown dry; especially is this true of the McLean pea and other delicate green peas, and of the various kinds of sweet corn. When the weather is dry and hot, however, it may be an advantage to steep the seeds before using them, and especially so in the case of seeds that are slow to germinate, such as celery and parsnips and carrots; to steep these seeds for a few days until germination has started, and then dry them just enough to make them pass readily through the seed drill, will hasten their coming up, so that weeding will be less difficult in case the land is foul; but such seed should not be sown upon foul land if it can be avoided. Care is required in steeping seeds, that fermentation does not occur, which will frequently kill the seed. It may be arrested by turning off the water and spreading out the seed thinly upon a piece of sheeting and partially drying it.

Salsify.

Salsify, often called vegetable oyster, is rarely grown to perfection. Its cultivation is precisely the same as for parsnips. Joseph Harris states that the seed may be sown as early in the spring as the ground is in good working condition, or it may be sown as late as the first week in June with fair results. As a rule, the early sowing is most desirable. The land is better if prepared in the autumn, and it cannot be made too deep, or too rich and mellow. It should be sowed in rows twenty inches apart. The seed is long and slim, and few drills will sow it evenly without wasting the seed, hence it is better to sow it by hand, dropping about two seeds to an inch of row, and covering half an inch deep. If the weather be dry and the soil very light, it may be covered an inch or an inch and a half. In dry weather it is desirable to roll the soil after sowing. As soon as the plants appear, hoe lightly on each side of the row, and a few days later run the horse-shoe or cultivator between the rows. Suffer not a weed to grow, and ultimately thin out the plants, leaving them from four to six inches apart. As usually grown, the roots are quite small, because the plants are left too thick in the row. Salsify is a good crop for the field garden where land is comparatively cheap. The roots bring the highest price in the spring. Like parsnips, salsify can be left in the ground all winter, but a portion should be dug in the fall and kept in pits or in the cellar. The stalks do not grow more than three feet high. It is well to have the rows forty-two inches apart for convenience in gathering. The seeds do not all mature at the same time, and it is usual to go over the field two or three times and cut off the heads of seed as soon as they turn brown. There is but one variety of salsify.—[Fruit Recorder.

As the time for grafting approaches it should be remembered that the only secret of success is in carefully adjusting the scion to the stock, so that the flow of sap from the latter to the former will receive as little check as possible. Wax is useful mainly to exclude air while nature cements the new wood with the old. This will require only a few days if the work has been well done, but it is important that the buds on the graft should be dormant. Evaporation from the bursting leaves is very rapid in warm spring days, and if not sustained by fresh supplies of sap, the leaf soon withers. Hence the graft should be cut before any warm weather, and is all the better for being set as soon as danger from freezing is over. With cherry trees early grafting is imperative if success is to be insured.

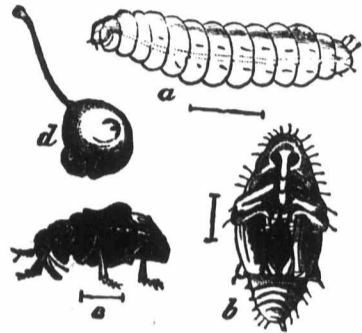
Don't uncover protected grape-vines, strawberry plants, etc., because we may have a warm spell. More harm is often done in this way than the benefit derived from the protection. It is more important to protect plants from the quickening effects of warm weather which is not to last than from the severest cold of mid-winter.

Plum Curculio.

The plum curculio in the larva state, in which alone it is found working in the fruit, is a pale, yellowish, footless grub (a) In the pupa state, in which it is found under ground, the color is about the same, but the members are distinctly visible. In the beetle or mature form, it is roughened and warty, (c) and so colored with gray, brown, white and black, that, when resting on the rough bark of a peach or plum tree, it almost defies detection, and when lying on a flat surface, with the legs drawn in, looks precisely like a dead bud. It often makes a peculiar creaking stridulation, by rubbing the tip of the abdomen up and down against the wing covers.

The following facts are from careful observation:

1. It is more numerous in timbered than in prairie regions.



2. Under the hard wing covers of the beetle there are folded up two ample membranous wings with which it can fly and does fly, so that cotton bandages, or other like contrivances, placed around trees as a safeguard against its attacks, are utterly useless, and result from ignorance of the insect's habits and nature.

3. It hibernates in the mature or beetle form; principally in the woods, under the bark of trees, but also in any other shelter that presents in the vicinity of the orchard. The same spring influences which cause our orchard trees to wake from their winter rest, also rouse the curculio from its dormitory.

By the Way.

There is more nutriment in straw than is commonly supposed, and if rich food like corn or cotton-seed meal is fed, more will be eaten by stock. Straw alone is not nutritious enough for perfect feed, while corn or cotton-seed meal are too concentrated.

Mr. E. B. Underhill reports that he found that apple of "the goodly outside," the Ben Davis, the best winter variety on the list for evaporating, both for handsome appearance and large per cent of weight when dried. "Even its quality is improved by the fire and brimstone probation it undergoes," and he suggests that it may be profitably kept for this special purpose.

Mr. Jonathan Talcott, the veteran and excellent farmer, Rome, N. Y., is reported by *The Utica Herald* as regarding "all things considered," the Beauty of Hebron the best of all early potatoes he ever raised; he thinks it has general adaptation to most soils, and gives this hint as to requirement for success:

"Cultivators should bear in mind that all early potatoes need richer land to give best yield; their period of growth being shorter, they require more nourishment to perfect the crop than sorts maturing later in the season."

Dr. O. S. Carpenter mentions in the *Ohio Farmer* some drawbacks of SMALL FRUIT CULTURE FOR MARKET, to which persons proposing to start in this business will do well to give due consideration:

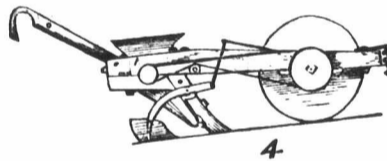
"The actual difference in the profit where you can make eight loads a day and where you can make only two or three, hauling for two months, is enormous, especially when help is hired. I have known fruit to be planted by persons when pickers demanded the lion's share of the profit or they would let the crop spoil on the grower's hands. I have known \$500 net to be made from a single acre of strawberries. I have known the acre to bring the grower in debt; picking, freight, commission, package, losses, bad market days—are all to be considered. No drone should attempt it, nor any man who fears a wet skin; for nothing is surer to come than rain when fruit is ready to pick."

Prof. Beal, of Michigan, relates that, in order to test the belief in the necessity of bumble-bees for fertilizing red clover, he made several experiments. The first year a few clover heads, covered with light sashes of muslin, yielded about two-thirds as many seeds as those left uncovered. In the second year four heads covered before flowering yielded 18, 30, 38, and 41 seeds, respectively, while four heads that were uncovered yielded 46, 51, 43, and 57 seeds each. In the third year, of the covered heads, only one among 31 heads yielded seed. For the second crop of the third year eleven covered heads yielded no seed, while the uncovered heads yielded an average of 37½ each. Other experiments showed that, with the aid of the bumble-bees, four times as many seeds were produced, compared with those from which they were excluded. The Professor thinks it fair to conclude that the bees are of considerable value in fertilizing the flowers of red clover.

It has been discovered that potash for potatoes does little good unless applied early and thoroughly mixed with the soil. This may indicate either that the potato plant needs the potash in its earlier stages of growth, or that the alkali serves other purposes in developing plant food in the soil, which requires a longer time. It is probable that crude potash is rarely or never used as a plant food. As it absorbs nitrogen and becomes a nitrate of potash its virtues become available for plant nutrition.

Sints and Selps.**Seed Planter, Coverer and Fertilizer.**

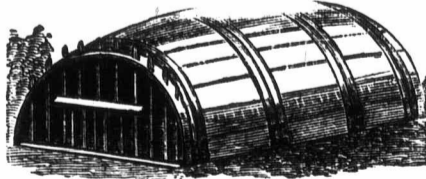
We find among recent patents a new combined seed planting, covering and fertilizing machine. The machine is shown in the annexed cut, in which is a plow of the usual construction of beam, standard and handles. Near the outer end of the beam, between its lower face and the upper face of a block bolted to its underside, is journaled an axle that is cylindrical in its middle and has squared ends. One of these square ends passes through a square hole in a wheel which rests on the ground, supporting the plow beam and revolving the axle, to the opposite end of which is attached a band pulley; the wheel, axle and band pulley all revolving with the forward movement of the plow. A band passes over this pulley, and its upper portion passes thence around a pulley on the axle of the dropping



wheel, K, from which it passes over a guide pulley back to the driving pulley, revolving the shaft of the dropping wheel and dropping the seed. By using band pulleys of different diameters the distance apart of the seed can be regulated. The dropping wheel is directly under the hopper, and has a recess on its circumference, having one edge cut away. In this recess is inserted a plug, leaving a space between it and the cutaway surface, the size of the opening being graduated by the size of the plug, thus regulating the quantity of seed dropped. The seed is covered by two coverers, one provided with a right and the other with a left share, secured to their ends, and may be readily adjusted, so as to cover deep or shallow as may be desired.

Barrel Coop.

Take an old barrel and back every hoop on each side of a seam, between the staves, with an inch wrought nail; after clinching the nails, I saw the hoops off on the seam, then I spread the barrel open, as in the following figure.



By cutting a board about 20 inches long for the back of the coop, and two small pieces to tack laths on for the front part, I have the upper section of the back fastened with leather hinges, so that it can be opened at pleasure.

The Apiary.**How to Feed Bees in Spring.**

I would recommend a trial of the following plan: Take sugar, melt it, mixing it in one or two ounces of flour to a pound of sugar. Sugar it off the same as maple sugar, then pour it into pans and cake it hot before it has time to gain much. It is then damp and hard; break it into lumps, and place it in the hive behind the division. Now for the result. Your bees will work on it, and you can see the sugar just covered with bees; it keeps them at home, keeps your entrance closed to just let one bee out at a time, and it will make you laugh to see how fast they will breed. If you allow your bees to fly in cold weather in spring, you will lose many. When the bees go forth in search of stores, and a dark cloud shades the sun, and they become chilled, they drop to the ground never to rise again. I have known hives to lose half their bees in a few days; but if they are kept at home, you not only save them for some time, but all the heat they generate is lost if they are out; but if in the hive it is all saved, which is very important in spring. Four quarts of bees will do more breeding than five, if fed in this way; it does not excite them, but furnishes something for them to do at home when they are all required in early spring. In cool weather in spring bees should be closed up, and especially in cool, windy weather. A little caution in preventing them from flying at undesirable times, will frequently add twenty-five pounds per colony to your surplus in one season. Some seasons the spring weather is very favorable, and the above caution is not necessary. This does away with the experience of feeders, some waste is done quicker, gives better results, and is worth a trial.

The Bee-Moth.

This insect (*Galleria cereana*, Fabr.) belongs to the Lepidopterous family Tineidae, very troublesome and destructive in the hives of the honey bee. The perfect form is a winged moth of a dusky gray color, measuring from five-eighths to three-quarters of an inch in length from the head to the tip of the closed wings, the wings expanding from one inch and one-tenth to one inch and four-tenths. The female is larger than the male. They may be found during the greater part of the summer. They remain quiet during the day, unless disturbed, on the sides or in the crevices of the hive, and in the evening, when the bees are at rest, hover round the hive till they find the door, then enter and lay their eggs.

Those that are prevented in any way from reaching the interior, lay their eggs on the outside of the hive or on the stand, whence the worms, as soon as hatched, creep easily in through the cracks, or gnaw a passage under the edges. These worms, at first no thicker than a thread, have sixteen legs, and soft, tender bodies, yellowish-white in color, with a few sparsely scattered brown dots, from each of which grows a short hair. The heads are brown, and there are two brown spots on the top of the first ring. They begin to spin directly they are hatched, each one making for itself a tough silken tube wherein it can turn around or move backward or forward at pleasure, and in which it lies concealed during the day, coming partially out at night to devour such wax as it can reach. Beeswax is their only food, and they prefer the old to the new comb. As they increase in size they enlarge their tubes, and coat them exteriorly with grains of wax mixed with their own castings, which resemble gunpowder.

Thus shielded from the stings of the bees, they work their way through the combs, gnawing them to pieces and filling the hive with their webs, till the discouraged bees abandon their perishing food and wasted stores, and leave the worms entire possession of the hive. The bee-moth was probably brought to this country, with the common hive-bee, from Europe, where it is very abundant and does much mischief. There are many contrivances, patented or not, for protecting the hive from the invasion of the moth; but there is no better way of preventing its injuries than by keeping the stocks strong and by visiting the hives regularly in the early morning hours. The moths may then be found hiding under the ledges and about the hives, and being at this time sluggish and disinclined to fly, they may be readily crushed.—[Exchange.]

The Farm.

Draining.

BY C. G. ELLIOTT.

(Continued.)

SIZE OF TILES.

It has been previously stated that the grade of the drain affects the velocity of the flow of water, and consequently the quantity which will be discharged in a given time. In consequence of this the grades of the drains which we wish to lay should be known before we can determine the most economical size of the tile to be used in order to drain a field or farm. In the consideration of this subject we shall endeavor to give a few practical directions, which have been found to be reliable, without entering into the mathematical demonstration of formulae which would not be of use to the farmer in ordinary drainage. The questions to be taken into consideration relating to this subject are:

1. What is the area to be drained?
2. What is the greatest rainfall upon that area in twenty-four hours?
3. What is the amount of surplus water which must be removed from the soil by drains, compared with the rainfall?

In the case of *casual* or *random* drainage, by which we mean the laying of a line here and there to drain some sag or wet place, and of which there is a great deal done, and often necessarily, there is a much greater area to be drained by one line of tile than we are apt to suppose. The one line will act directly upon a strip of land fifty feet wide on either side of it (in prairie soil), giving thorough drainage, and indirectly on all the land whose surface slopes toward the drain. In case of ponds and sloughs, a great quantity of water, in times of heavy rains, passes very rapidly over the surface of surrounding slopes and gathers upon the lowest land through which the drain passes. There is also a constant percolation of water through the soil upon the slope towards the soil which is directly acted upon by the drain. This has before been described as natural under-drainage. This being the case, we have found by experience that the area which we should consider in fixing upon the size of the tile is, in addition to the land acted upon directly by each drain, about one-third of all the land beyond this which slopes toward the drain, provided the slope is three feet or more in one hundred feet. The less the slope the more we may decrease this amount. For example, suppose the land, which is directly raised (taking fifty feet each side of all the drains), is two acres, and the sloping area beyond this is nine acres, then the area for which we must provide drainage is about five acres. A failure to consider the drainage area in this way has often led to the use of tiles which are too small.

If the land is flat and the drains laid out systematically, the area drained is easily determined. In such cases we need only to remove the water which falls upon the district itself. If, however, this district has land around it which slopes toward it, thereby throwing water upon it which does not properly belong there, we must regard the area in the same way as in the case of casual drainage. The *average* rainfall does not enter into this computation, but the greatest rainfall at any one time. If we can provide for the removal of the surplus water which falls during twenty-four hours, in the succeeding twenty-four hours, it will not do serious injury to the crops.

It is usually considered that one inch of rain in twenty-four hours is the maximum for which it is necessary to provide. The very excessive rains are quite apt to come after the soil is quite dry, and a great amount is absorbed. As this is not always the case, we should not be safe unless we assumed that one and a half inches would at times fall during twenty-four hours. This will give us 40,731 gallons which fall upon one acre of land.

The question is, what part of this water is used by plants and carried off by evaporation, and what part must be removed by drainage? Many experiments have been made to determine this, and the amount discharged by drains has been found to vary much with the soil. We may say, in general terms, that about half the rainfall should be carried off through the drains. For a rainfall of one and a half inches we must remove 20,365 gallons of water from each acre, and this must all pass through at least a part of the main drain. The depth to which the land is drained and the nature of the soil will vary the conditions, so that the amount of

water to be taken off may be much less. The fact that the soil when drained to a depth of three or four feet will hold an immense quantity of water, which will not, for the time, interfere with growing crops, allows us to use much smaller tiles than if we were required to remove all of the surplus water in twenty-four hours, and also renders close calculation as to size very difficult. As noted before, deep drainage requires tiles of less capacity for the same area than shallow drainage. The following directions may be given as a general guide in regard to the size of the main to be used for a given number of acres. We will take as a basis drains laid not less than three feet deep and on a grade of not less than three inches in one hundred feet. For drains not more than five hundred feet long a two-inch tile will drain five acres. Lines more than five hundred feet long should not be laid of two-inch tile. A three-inch tile will drain five acres, and should not be of greater length than one thousand feet.

- A four-inch tile will drain twelve acres.
- A five-inch " " " twenty acres.
- A six-inch " " " forty acres.
- A seven-inch " " " sixty acres.

A long drain has a less carrying capacity than a short drain of the same size tile laid upon the same grade. In order that the long one will do as effective work as the short one, larger tiles must be used if the grade remains the same. If we double the grade per one hundred feet of the drain we increase its carrying capacity about one-third. Hence, the steeper the grade the smaller the tile required to do the same work. In the above we have had reference to the size of the *main*. The size of sub-mains and branches must be proportionate to the size of the main, taking into consideration the fact that the capacities of tiles laid upon the same grade are to each other as the squares of their diameters. Thus the capacity of a two-inch tile is to the capacity of a four-inch tile as four to sixteen. The size of the tile should diminish toward the upper end of the main or branch according to the decrease in the amount of water which will need to pass through that portion of it. In case the drains are laid only from twenty inches to thirty inches deep, we can only expect that the sizes we have given will do satisfactory work, especially in times of heavy rain. The instructions given upon this subject are as definite as is desirable to give, unless we take up special cases, in which we must vary the general rules. A man who has had large experience in laying out drains would, of course, do it more economically than the inexperienced, for he could take into account the grades upon which the drains were to be laid, the nature of the soil, and the area to be drained. In this subject we have not in all cases given reasons for statements made, since that would take more space than seems desirable at this time, but they may be relied upon as generally true respecting the subject under consideration.

KIND OF TILE.

The tile selected should be well burned, being hard enough to ring when struck with a knife blade. It is not well to get those which have been drawn out of shape by excessive heat in burning. They should be smooth on the inside, as the friction will be less. The best shaped tile, all things considered, is that in which the cross section is a circle. They can be laid more easily and give greater capacity for the material used. The requisites then are circular tile, of good clay, well burned, smooth and true in shape.

MAPPING THE DRAINS.

The drains having been staked out upon the ground, the grades arranged, and the size and number of tile fixed upon, we should make a map of the drains which will show their position, length, fall per 100 feet, and the physical features of the land through which they pass. This, with the notes, will give all the information respecting the drains which it will be necessary to preserve. The map is merely a sketch showing the position and length of the drains, and can be easily made, and will show what has been done, and will serve as a record of the improvements in the drainage line, just as others are shown by houses, lanes and fences. One may think he does not care for a map of his drains, as they will show themselves in the condition and improvement of the soil, yet when he begins to forget their location he will wish that he had some representation of them to refresh his memory and to show his friends, if nothing more.

THE CONSTRUCTION OF DRAINS.

The work done thus far has been preparatory to

the actual digging of the ditch and laying of the tile. It will seem to many that the staking out, leveling and adjusting the grade of drains, is too much work for little pay, if not wholly useless. The farmer, perhaps, has seen his neighbor do some draining "by guess" which has worked well, or he may have laid a short line of tile himself with good results, by simply using the running water as a guide. In more extended systems, and with no water, or even with water for a guide, he will sometimes partially or entirely fail. "Be sure you're right and then go ahead," is the motto to use in draining. With the drains laid out and depths marked upon the stakes, and every thing arranged as it should be, we know in advance that the drains will work perfectly, if they are laid according to the survey. If the whole system is not completed at one time, a part can be done in one year and the rest the next, or any other convenient time, though it is better to do it all at once, as the frost will move the grade pegs so much that the unfinished part will be obliged to be leveled again. It is better, however, to do part of the leveling twice if necessary, rather than not have the drains laid out upon some connected system.

By the Way.

The great improvement in English farming dates from the time when the Government commenced to encourage tile draining, by making loans to those farmers who asked it at the low rate of three per cent. per annum, taking security on the lands to be drained. The contract specified that a certain amount of draining was to be done for a specified sum, and this was always rather more than the money lent would do. In this way farmers were obliged to invest some money of their own in addition to what they borrowed from the Government. These loans were invariably paid when due, and the drained land was so much more productive than before, that the Government and people were alike gainers by the operation.

A great many farmers, says Colonel F. D. Curtis in the *Country Gentleman*, comfort themselves with the notion that if they change seed with some other farmer they are doing a big thing. This is a mistaken idea. Seed should be improved and taken from the farm where it is grown, and to which it has adapted itself. At home is the place for improvement. The idea that the little germ of a seed can carry the good qualities of a good farm with it is ridiculous; but it can carry with it peculiarities in its nature (growth and maturity) acquired in one place, which will be unsuited to another. He therefore advises farmers to improve the seed on their own land by careful selection of the best ears for planting.

Director Sturtevant's results the past season, as we have previously noted, showed the surprising fact of 77 bushels of shelled corn per acre from tip kernels, and only 46 from middles on unfertilized plots, and 88 against 77 respectively on the manured portion of the field. This naturally leads to an obvious conclusion comfortable to the poor farmer.

Remove a young calf from its mother immediately if it is not to run with her. Place it, if possible, where she cannot hear it. If a calf has not been allowed to suckle it can be taught to drink in one lesson. Give fresh, warm milk for a week; then warm, half-skimmed milk, and finally warmed skimmed milk.

Spare a day to look after your fences and strengthen the weak places. Make loose posts firm by tamping with a hammer and driving flat stones around the base. An hour or two spent thus during April may save a crop and many hours' labor later on.

Mr. W. Dempster mentions in *The Iowa Homestead* several instances of successful "cure of cribbing horses" by simply tacking strips of sheepskin, wool side up, wherever the offenders set teeth, and dusting with a little cayenne pepper.

A potato that has been chilled is totally unfit for seed. Farmers are often at a loss to know why their potatoes do not sprout, when the solution of the mystery would be found in the fact that they were chilled before planting.

A Kentucky farmer cures fowl cholera by boiling a bushel of smartweed in ten gallons of water down to three gallons, and mixing the decoction with their food twice a day for three days, then every other day for a week.

Correspondence.

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

Where are the Sheep?

SIR,—In looking over an old number of the ADVOCATE of 1873, viz., ten years ago, in it I read a letter in which the writer asks, What has become of all the sheep? He said he had travelled some hundreds of miles, and what astonished him most was seeing so few sheep. The ADVOCATE answers the query by saying that he must have travelled through a district where the people did not take the ADVOCATE. Now, sir, this may be some reason, but it is a very light one. I live in a district where the ADVOCATE is largely taken—I have been a subscriber to it nearly twenty years—and, here, sheep are to be found on almost every farm; have been a farmer myself and kept sheep, until I, like a great many more, gave it up in disgust for the very reason that it became unprofitable, and I, like many others, believed this unprofitableness came from disease and loss of many of the best animals, and, consequently, the flock was kept from improving, in fact—in a state anything but profitable. Now, I may say with the other man, Where are the sheep? Another will say, What is the reason the sheep are not? It is this, viz., disease and loss. I here give my reason of the disease: I am satisfied the great cause of loss in sheep every year is brought on in washing; it may not be much one year, but the next year will, no doubt, make up for it. Many farmers would keep sheep only for the trouble of having to wash them, and in many places they have to drive the flock miles to get it done, and that on a dusty road, and by the time the poor, innocent animals are got home they are in a far more filthy condition than before they were washed, say nothing of the worn-out state of the sheep, who will lay down and probably will not be able to take any nourishment for many hours, and should it be a chilly night, many of the best sheep will contract a disease which ever after keeps them from doing any good, if it don't kill them before another washing takes place. In short, sir, I think it ought to come under the head of cruelty to animals. Is there no law to prevent it? or is there any law that requires it to be done? I think it ought to be stopped. If it makes the wool bring a better price, I am sure the loss that has to be borne every year in sheep will far out-balance the difference in the price of wool. I would not be for allowing really tabby or mucky wool from the hips of sheep, kept in a dirty state, to be thrown in the same scale with the clean wool off the body of the sheep. I think well sorted wool from well kept sheep is really worth more as it comes off the sheep, than wool that has gone through the anything but human farce of washing on the sheep's back, to the risk of killing the very best of the flock. As the season for sheep shearing will soon be at hand, I would like to hear, through the ADVOCATE, from sheep keepers, what they think of the question, and if there is no law requiring this dangerous practice to both man and beast, let it be put a stop to at once. If you will allow space in the ADVOCATE, let us hear what you think of the subject, and request others to do the same.

J. H., Stamford, Ont.

[It is with pleasure we give space to the above, and trust it may open a discussion that may be of benefit to the country. The temperature of our climate and of the water at washing time, is very different from what it is in England or Australia. The average sheep of Canada do not carry near the amount of grease in the wool that the sheep in Australia do, neither has it to be carried so far to market to be manufactured. We trust that manufacturers, buyers and farmers may each be heard from. We want more sheep and better wool.]

SIR,—Can you tell me where the *Phonographic Magazine* is published? Or some other phonographic journal?
J. C. G., Corseley, Ont.
[The Bengoughs, Toronto.]

Snow Smothering Wheat.

A correspondent writes us saying that snow will not smother wheat, and advances the following argument:

I will suppose a case. Take a field with timber along the whole length of the sides, both north and south. In this field you will generally find the snow deepest on the south side, as a rule; in Ontario always so. Now, did you or anyone ever find your wheat or grass killed along the south side or fence? I have never seen it yet. But on the north, where the snow was lightest, I have, and from ten to over twenty feet in width. I remember an instance of snow drifting into a hollow or ravine, fifteen or twenty feet deep; while it retarded early growth, there was none smothered or killed.

Now, instead of being smothered, is it not burned to death by the sun? For often there is not a particle of vegetable life left. So long ago as 1812 and 1815, during war times, the late Reuben Canada, late of lot 25, south on Talbot St., Malahide, was on duty at Niagara. Being of a very observing turn of mind, his comrades would ask, What new discovery to-day, Reuben? Until at last, one day he astonished all by saying he could burn a hole in a shingle with a piece of ice. How astounding!—but let the credulous try it. Take a piece of clear ice, shape it somewhat like a sun glass, and hold it in the sun, with the rays directed on to a piece of wood. With me, here is the much talked of cause of wheat being smothered. The snow melts with the sun, and at the edges, where it is very thin, it freezes in the night, then next day makes a sun glass.

AN OBSERVER.

SIR,—Is there a rule for ascertaining the weight of fat cattle by measurement? If so, please insert in your next ADVOCATE?
S. K.

[Take the girth behind the shoulders and square this number, and multiply by the length from this point to the tail, and multiply this product by 3.33, and the result will be the dead weight of the animal. For instance:

Girth 7 feet.	7
—	49
Length 5 feet.	—
—	245
—	3.33
—	735
—	735
—	815.85 pounds weight.

SIR,—I noticed an item in my last paper, or the number for March, speaking of the value of apple and pear lumber. Will you do an old subscriber a favor by letting me know where these woods may be sold.
J. W. H., Chatham, Ont.

[Any furniture manufacturer will inform you about the prices of apple and pear tree lumber.]

SIR,—Will you be so kind as to let me know how to use that plant called *Pyrethrum roseum* to make what is called Persian insect powder, whether it is the seeds and leaves together, or how? or will it drive insects away if grown alongside of other plants? And can you tell what that plant is, called dog's tongue, the *Cynoglossum officinale* of Linnaeus? I saw it in "Mackenzie's five thousand receipts," p.418, for driving rats and mice away. It is said to grow plentifully in meadows; how would I know it? or is it a humbug?
T. H., Weston, Ont.

[1.—All the plant should be dried and reduced to powder, and either applied in the dry state or by making an infusion by soaking in hot water. 2.—*Cynoglossum officinale*, L. (hound's tongue or dog's tongue) is a very common weed throughout western Canada, growing along roadsides, in waste fields, and especially in rich woodlands. It is one of the commonest of our burs, the hooked flat millets, as large as peas, being a great nuisance from adhering to the fleece of sheep. The plant is from a foot and a half to two feet high, branching above, and is hairy. The upper leaves sit close to the stem, while the lower have long stems. The flowers form spikes at the end of the branches and are bright purple in color. The fresh plant has a disagreeable odor, resembling that of pine, which disappears on drying.]

SIR,—I had no idea when I sent you an advertisement last August, that the ADVOCATE had such a wide circulation, until orders came in from P. E. Island in the East, North-west Territory in the far West, and from some of the States in the South. We have been experimenting with different varieties of grain for years, to find which is the most certain under ordinary circumstances to give the best returns. In fall wheat the Clawson, Scott, and White Mountain, the last mentioned coming out in the spring all safe, while other sorts were badly killed. We sowed eleven acres of Defiance, a new spring wheat, which turned out a complete failure, only yielding 15 bushels to the acre, and weighing 53 pounds to the bushel, and making a very dark flour. Lost Nation and Wild Goose succeeds best in this township; the latter in grinding requires to be high ground to make good flour. In oats the Potato is the heaviest in weight, but is liable to rust, with rather small yield; White Main inclined to rust; New Zealand a rarer crop, free from rust. And the two varieties advertised. In Black Oats the Tartarian are the best and freest from rust and smut; the Black Poland being both late and liable to rust. We tested White Russian and Black Tartarian on a piece of swamp ground last season; the Russian ripened about the middle of September, while the Tartarian broke down in the straw. In peas the Prussian Blue withstand the bug the best, but are rather long in the straw. The common small pea yield the best (barring the bugs).

T. M., Guelph Township.

SIR,—I feel anxious to know more about the silo system of pressing fodder. Will you be kind enough to answer the following questions, viz., What is the cheapest and best method of building a silo? Would it do to build a frame of wood and plank, and cement inside? Would green buckwheat make good ensilage? What will a good cutter for preparing ensilage cost,—one to work by hand or horse? By answering the above through your valuable paper you will much oblige,
BLUENOSE, Halfway Brook.

[The cheapest silo that you can build is to dig out like a cellar and board with inch plank. It would not be necessary to cement inside. Green buckwheat would not be profitable ensilage. Apply to some of our manufacturers who use our advertising columns for price of cutters. The ordinary straw cutters will do.]

SIR,—“G. G. McK.,” on page 84 of March No., asks for information about bee hives and bees. It touches a cord in my sympathies that I cannot refrain from responding to, as I have been on the same ground. I would say the box hive is no good for many reasons, besides not being able to clean them out; and as he intimates that he has some knowledge of movable frame hives, I would say to him: By all means transfer to them if you wish to handle bees either for pleasure or profit. As there is no address to his communication, I cannot tell whether he had better use the single or double-walled hive; but I suppose he is in Canada, and our climate requires some better protection in winter than the single-walled hive, either by placing in the cellar or by burying. But the double-walled hive will keep them safe if properly prepared for winter. The D. A. Jones' Porus Palace Hive, I think, is what will suit our climate, or the Chaff Hive. We are using the Jones' Hive in these parts, but have not yet tried the double-walled, though we have some ready for spring.
E. T. M., Griffin's Corners.

SIR,—I notice in your number of November, 1882, an article headed “Extraordinary Yield of Potatoes” (page 292). I would like you to tell me how potato ground should be prepared, as I can not raise much over 50 bushels to the acre. Let me know how often they should be hoed, and the scuffler run through them. Seeing by your last number that you were going to have an article on potatoes and corn in your next, I thought I would ask these questions. I would also like to know what variety of grape is the most durable.
A SUBSCRIBER, Trafalgar, Ont.

[The number of times your land will require hoeing and scuffling will depend on condition of your soil. If the land is clean, twice or thrice will be sufficient. Your land must be in shocking poor condition if you can only raise 50 bushels per acre. Try plenty of manure and thorough culture. The Clinton is the hardest grape, but for general purposes we prefer the Concord.]

Thoroughbred Stock: The Need of Agricultural Societies.

SIR,—Farmers can be touched more quickly by the pocket, or influenced by gain, than in any other way, and in order to get their interest more fully we must be able to show that there is money directly, as well as indirectly, for them.

Among the average farmers, prices of pure bred animals are so large that they cannot buy, or think they cannot. Now let the Agricultural Society step in, and as I suggested in a previous paper, send our best men and buy good bulls, rams, etc. Have these sold, to be kept available to members, at reasonable rates, as I hold that the Society has done its work when the animals are brought into the district, and every member should be willing to pay for the services. The animals would thereby sell at a better price and be less loss to the Society, and the stock would be improved in a much greater ratio than when any mongrel animal is bred from.

It will not do to expect every calf, lamb, etc., bred from a pure sire, to be first-class, as we should remember that the dam may be of such cross breeding that we cannot depend on the progeny.

If by the use of a pure bred bull in the district we get yearly 50 calves, worth from \$2.00 to \$5.00 each more than mongrels, and the animal is kept 3 years, we see a return of from \$300 to \$750 for one animal, and as the cost of keeping is no more than a common animal, goes to pay the first expense of purchase. The same may be said of sheep and other stock.

When we can show that by honest rivalry we can improve the grains we grow, as well as roots, in a corresponding manner, and that the price is also better, we must surely get the good will, interest, and assistance of the mass of farmers, and have them stand shoulder to shoulder with us in this great work.

If we could make our general and directors' meetings more interesting by reading papers on the various branches of our work, or by short discussions on the matter with our individual experiences in beef and pork making, etc., it would promote a better feeling and secure a more regular attendance. Farmers generally live too isolated a life and have not enough interchange of thought, and the Society should be one of the measures of bringing them more together. All other professions have their meetings to consider the different phases of their calling, and why should not we do so too? Make our Agricultural Societies more effective, then, by promoting a better education among our farmers and thereby stimulate the young people to study and write more on agricultural topics,—by prizes for the best farm buildings and most neatly kept; by inducing a better system of laying out our farms; by advocating the growth of fruit trees and small fruits whenever practicable; by encouraging the growth of flowers for recreation and ornamentation, which elevates the mind and is indicative of a higher education and more refined tastes; by giving prizes at our fairs for the promotion of the fine arts, which will tend to make our houses more attractive and be a strong incentive to keep our families there. All these things will assist in making our farmers see the necessity of a more effective society, and the great need of more real work and unanimity in this great cause,—will enable them to see (what the Yankee calls) the almighty dollar coming in when only cents went out.

O. E. L.

SIR,—1. Can you let me know what will keep mice out of root pits, as they make sad havoc of potatoes, carrots, mangolds, etc.? also, is refuse straw from cows' mangers injurious to horses for bedding? 2. Can you recommend the blue pea as being bug proof; if so, from whom could they be got, and how much per bushel at Seaford? 3. What will prevent hens from eating their eggs? They are very fat and were enclosed all winter. 4. Is buckwheat apt to grow, after being plowed under in the fall, from the root the next summer? Please answer in your next and oblige.

N. T. A., Constance.

[1. We really don't know of an effectual way of keeping mice out of cellars. We are not aware of there being anything injurious to horses from being bedded with the refuse straw from cows' mangers. 2. For the pea weevil, read the report of the Oshawa Farmers' Club in another part of this paper. 3. Find out the delinquent and kill off at once. Others will soon follow her bad example. 4. Buckwheat is only an annual plant.]

From the Bermuda Islands.

Hamilton, Bermuda Islands, March 15th, 1883.

DEAR OLD ADVOCATE,—Probably a few lines from these solitary islands may not be uninteresting to a few of the many readers of your journal. Leaving the cold clad cliffs and snow-bound regions of Ontario in the early part of March, for Bermuda, I soon found myself landed in a region all in bloom and growth—hill and dale alike clothed with green verdure. This we would somewhat naturally expect, knowing its somewhat southern position. Though many people may look upon Bermuda as tropical, it is not so, being only semi-tropical; yet, being semi-tropical, it will grow nearly all of tropical trees and fruits, though probably not to the perfection as in the West Indies. The one grand point with Bermuda is that it does not have the extreme heat of the tropics, and yet escapes all cold winters. The weather in any country is always a great consideration. This, I presume, is the best part of Bermuda. The thermometer rarely falls below 60°, and also rarely reaches higher than 85°; both with us in Canada would be considered fine weather. During the months of July and August the average temperature is about 80°. This the people here consider very hot and tiresome weather, yet how very many of our farmers and gardeners work with us with the thermometer nearly a 100°, and even sometimes over that. Of course people naturally grow tired of work, and this is the time the Bermudians take things very easily. I am not saying this last expression does not suit them at all times, and, if a man can make a living by taking things easy at all times, where's the fault? There is worry enough in the world at best, we all know, or, at least, think so. Though I am inclined to think if the people here were blest with a little more vigor and enterprise, it would do them no harm. At first approaching the islands, probably at a distance of four or five miles, we were greeted with a lovely perfume from off shore,—not from Bermuda's great onion beds or potato patches, but with fragrance from the oleander, roses, wild sage, &c.; it was perfectly delightful. After reaching a small harbor, we were compelled to anchor for the night. Next morning we passed through a number of small islands, for a distance of about 15 miles, before reaching the town of Hamilton, our landing. This is the principal town on the islands, containing a population of about 2,000. The whole island is of interest to a northerner; its trees, its grass, and nearly everything is very different from what is to be seen in the north. All is new, all is odd, and yet attractive. Its roads are all stone, made so by nature. The buildings are all of stone, a rather coral, white and neat. The roofs are made of the same stone, and all is dazzling white when the sun is shining upon them. It is well that the roofs are made of this material, as all the water fall is carried into large tanks, and saved for drinking and general use. This is the only way they have of procuring water here, for all uses. The rainfall is sufficient for supplies, and is also evenly distributed through the year, which keeps it nice and fresh at all times. Our farmers, I am afraid, would laugh themselves sick with their little bits of cows tethered up by the neck, endeavoring to struggle for existence. Also, they have a lot of little goats tethered around for milk, and little bits of donkeys, and everything seems to be got up on a small scale. The people are very hospitable, sociable and intelligent. More than one-half of the population are negroes of a superior cast to anything to be found in Canada. As time will not permit me to write more on this occasion, I hope in my next to speak about the islands and their products in fruits, grains, etc., also of its soil and cultivation, and how the inhabitants make their living. It must be remembered that they are but a speck of land in a great ocean of water, the nearest land point to us now being over 500 miles, and letters reach us only once in two weeks; therefore you somewhat imagine how shut out from the world we are, and how news is grasped when it comes. Our mail now is about closed, so I must close.

VIATOR.

SIR,—Please answer through the columns of the March or April number the following question: Can I profitably raise calves on porridge, &c., such as mentioned in article, "The feeding of young animals," contained in February number, without feeding any milk after they are a week old?

E. A. O., Simcoe, Ont.

[See article on page 102 of this number.]

SIR,—Please answer the following: I have a large piece of sod land that I am going to plant in corn, some field corn and some ensilage, and would like to know if it would be best to plow the land first, and then spread and harrow in the manure, or plow the manure under with the sod. I am going to get a harrow that will cut right down through the sod and leave it quite fine and mellow. As the manure is spread over the field in large piles, it would doubtless be more convenient to be spread and then plow, but which would be best? I should also drill the corn in with superphosphate. The manure is pretty fine. In the February number, in reply to W. D. Mayah, P. E. I., you say that it would not do to plant corn on sod, etc. In this I beg to differ with you, for I sowed my ensilage corn last year on run down sod land that had been plowed the fall previous, harrowing in the manure well and then drilling in the corn. It did well.

G. E. S., Fredericton, N. B.

[As the manure is already on the land, it would not pay you to draw it off again. Better results would have been obtained had it been spread after plowing. Manure plowed under now will not be available for the present crop. No doubt excellent crops can be raised upon new sod land, but there would be less trouble of cultivation if the land had been plowed the previous fall, and that was the import of our answer.]

SIR,—Could you, through your valuable paper, let me know anything of the culture of sweet potatoes? I should like to get about one peck to plant for my own use. I take two rural papers. I have eight or ten catalogues for 1883; not one of them have the words "sweet potato" in them. I should like to know if there are any a little hardier than the real Jersey Sweet. Any information would be thankfully received by a subscriber.

J. Y., St. Thomas.

[Sweet potatoes are propagated by sprouts, germinated in beds. Your best plan would be to procure your plants from some reliable seedsman in Philadelphia. There are several varieties, all having recommendable properties.]

SIR,—Would you be kind enough to let me know in your next issue of FARMER'S ADVOCATE, how to arrange a three horse double tree, so that the off outside horse can walk in the furrow.

J. D. T., Dawn Mills, Ont.

[An apparatus to suit your purpose consists of what in common parlance is called a long or "false" double-tree. This is attached to the plow, and the draught for the two horses should be one-third, and for the single horse two-thirds of the purchase. The two horses are hitched to a common double-tree, which is attached to the "false" one at one-third distance, and the single horse pulls at two-thirds distance on the long or "false" double-tree.]

SIR,—1. Which is the best white oat for Nova Scotia? The White Australian and White Zealand are too late, except on very early ground. The White Russian is reported as failing to give satisfaction. Do you know anything about Mold's Enobled Oats. 2. What kind of raspberries, blackberries, gooseberries, currants and strawberries would you recommend for this section of country; soil chiefly sandy, with a good chance of hauling mud. (The mud is the same as you would see in Onslow, near Truro. No doubt you noticed it when you visited Nova Scotia.) 3. I intend making a manure cellar 30x30 feet, tight enough to hold the liquid. What would be the best material to make it of? 4. There was a lot of superphosphate came from Ontario last year. The firm was * * * * * There were no brands on the barrels to tell what it was, and it turned out to be as useless as sand. The farmers lost not only the cost of it, but their crop. Those who used Lamb's superphosphate and Jack & Bell's superphosphate were well satisfied. Do you hear any complaints of the Company, or have they sent us a lot of trash, thinking we were green enough not to know the difference between good and bad. There is not a farmer here that would take it if he got it for nothing.

L. D., Belmont, N.S.

[1. We do not know Mold's Enobled Oats. 2. We make it a rule not to recommend any particular variety, as it would be too invidious; so many of our patrons introduce new varieties that it would not be justice to them. A glance at the catalogues of the different nurserymen would give our correspondent the necessary information. 3. Brick or

stone lined with cement will make the best manure cellar. 4. We have omitted the name of the manufacturer as given by our correspondent, as the publication of it would be libelous. When under similar circumstances, in the interest of farmers, we gave the names of the offenders, we have been put to considerable expense to defend actions.]

SIR,—Kindly give me the following information through the ADVOCATE: What value is salt to different crops? What kind of soil is the most benefited by it? Also, how much to sow to the acre? If some crops derive more benefit than others?

D. J. W., Brantford, Ont.

[Salt as a manurial agent is highly beneficial to the various crops of cereals and roots. But our correspondent should recollect that it is not in itself a manure, but only a medium or agent whereby other elements of plant food are made available; principally through the action of sodium, one of the component parts of common salt. The best effects of salt will be found on lands rich in organic matter or vegetable soil, or land well manured. Don't expect to enrich poor or worn-out soil by sowing salt,—this is a great mistake a number of our farmers are making. If one kind of soil is more benefited than another it is light sandy land, as the salt attracts moisture, and is hence highly beneficial in dry seasons. On a wheat crop salt has the effect of stiffening the straw, and making it bright and clear. Two hundred pounds per acre is about the right quantity. You may sow at any time, either before or after the seed is sown, or when the grain is above ground. Sow on fall wheat this spring, and on meadows.]

SIR,—While I sit looking out on the storm blowing, I think of the advantage of planting forest trees to lull the piercing winds that drive drifting snow into every conceivable shape, to barricade roads and buildings, to prevent our progress and occasion our inconvenience; and in the summer forest trees are still of more benefit in moderating the climate and preventing extremes of heat and wet, and causing a more genial atmosphere. The growing trees consume a great part of the carbon in the air, thereby leaving us more oxygen, which is of so much vital importance. Most farming countries that have been originally forest, after the timber is removed, become more arid, and do not produce the same amount of cereal or vegetable crops as when they are partly cleared. Any one who has travelled through the prairies of the Northwest, and seen the sameness of a whole extent of the country, can appreciate the beauty and advantage of a mixed prairie and woods. If the settlers on the open prairie would plant a belt of trees around every section, and also around their buildings, they would soon find out the good results of it; besides enhancing the value of their property, the value of the timber for fuel, to those who have to draw it 10 or 12 miles, is considerable. I have experimented in various ways with different kinds of trees, and find that there is only one way by which success can be obtained, and that is by thoroughly cultivating the soil, and if possible grow some crop on it, and if there is no nursery in the vicinity, sow the seed of the best trees that are likely to germinate and make a good growth. I sowed the seed of the following kinds: Ash-leaf maple, white ash, white balsam, Norway spruce, black walnut, birch and mountain ash. Of the two former I have thousands of young trees from a few inches high to seven and eight feet high. Of the white balsam I have a few; the rest were nearly all a failure. Of course it would be different in Ontario, as those trees are all indigenous to that part of the Dominion. Now, sir, to sum up; forest trees are essential to our prosperity, as timber is used in nearly everything we require, from the cradle to the coffin; therefore, everyone who can, should encourage the growing of it to keep up the supply.

S. M., Manitoba.

SIR,—I give you my way of husking corn; you can publish it if you think fit: I have a table 2 feet 6 inches high, 6 feet long, 3 feet wide, made of rough boards, on which I lay the corn-shock; after loosening I take a hatchet in my right hand, seize the corn ears in my left and butt them off with the hatchet; the ear comes out on the double quick. This is the quickest, easiest and best way to husk, especially if the corn is wet or frozen. A narrow hatchet is best. The stalks are easier tied than the old way, and are not so hard on clothes; is warmer in cold weather, and can be done with mitts on, and, with a little practice, can be done thoroughly. B. B., Teeterville, Ont.

SIR,—I wish to establish a permanent pasture with the most luxuriant growth possible, in which to pasture my cows; land is a light, gravelly soil. What mixture of grasses should I use, and in what quantity? 2.—How should I prepare the land? I "soil" my cattle in the summer. 3.—What is the best grass for partially wooded pasture, all underbrushed?

V. E. F.

[In making a permanent pasture it is most essential to have your soil well prepared, clear of noxious weeds, and well supplied with food for the support of the kind of grass you intend to sow. This may be done by applying plenty of barnyard manure from well fed cattle, sheep and pigs, with an addition of superphosphate if needed. The following, per acre, is recommended for the seeding of permanent pasture, and which will bring a good and lasting result:—

Red Clover	3lbs.
Alsike Clover	2 "
White Clover	2 "
Timothy	6 "
Orchard Grass	1 "
Kentucky Blue	2 "
Meadow Fescue	2 "
Rib Grass	3 "
Total	21

2. Seed down with barley or fall wheat. 3. Kentucky Blue and Orchard Grass.

SIR,—I have heard from farmers in different sections of the country that there is not the same interest now in our cheese factories and dairy business as there was a few years ago, and I have been enquiring of several parties for the reason why. I am sure you will agree with me that the fault cannot be in prices, as last year's returns show that factories paid about the highest average price last season that has ever been paid. Neither can it be the fault of our factory managers or makers, as the make of our Canadian cheese generally has improved in quality very much during the last five years. I have met with quite a few farmers who give different reasons. One reason given is, that feeding cattle is paying nearly as well as milch cows, with a great deal less labor, but I have not heard any farmer assert that feeding cattle pays better than dairy cows. I have met with quite a few farmers who have not many young people in their families, and when the men have to do the milking, object to the dairy cows owing to the trouble and time it takes to milk the cows. And some who have hands object to the milking as being confining; have to get up early in the morning and have to be at home in the evenings; the cows have to be attended to whatever else has to stand. There is a certain amount of truth in all these reasons, but I think not enough to make farmers lose interest in dairying. Now, I think all these difficulties might be got over, or at least greatly modified and lessened by farmers using a little consideration, and making a little allowance to the milkers. For instance, take the hired man; when making the agreement, say to him, You will need to milk 6 or 8 cows, as the case may be, and allow him a little extra, say 25c. a week for three months. When the cows get lighter to milk in the fall his services could be done without. Then take the farmer with the family; let him give his sons or daughters, say a good heifer calf to bring up, or a good lamb or some little inducement and encouragement to them for their labor, and I have little fear but the cows would be milked, and cheerfully too. While speaking about milking, it might not be out of place to say a word at this season about the cows. Now is the time to attend to the dairy cows, as they come near the calving. Cows to come in in good condition should have a little feed of some kind of grain or ground cake, for about six weeks before they come in, and cows will not come in in very good condition unless they get some extra feed for at least three weeks before calving. They have their calf to nourish, and for three weeks before calving the cow will lose in condition very fast unless she gets extra feed. If well cared for, then she will amply repay her owner with good interest for expense and labor. DAIRYMAN.

SIR,—Please, in your next issue, inform me of the most effectual feed to force the growth of a yearling bull, and also a yearling colt.

E. A. F., Lowville.

[Give your bull about a peck of chopped rain a day, with plenty of good hay, and feed freely with roots. Your colt should have about 4 quarts of oats a day, good hay, and a peck of carrots, with reasonable exercise.]

To New Settler, Birtle, Manitoba: The best hay loader we have seen is made by Russell & Co., Ingersoll. Jas. Sharman, of Stratford, makes the best two-horse thresher we have seen working in Ontario. Send for their circulars. White's agricultural engine and boiler have given great satisfaction. His address is London. Thos. Cowdy & Co., of Guelph, can supply you with plows and fanning-mills made expressly for your region. We know of no one making hay-loaders in Canada at the present. It is our opinion that the mulberry tree will thrive well with you. We would not advise you to invest largely in them or any other new plant or seed, until you have seen them tested in your locality. We doubt if our hardy apples would prove successful; the crab-apples will thrive with you. Take the advice of the most successful settlers in regard to your seed selections. In your next give us more information and fewer questions to answer. Editors are more thankful for valuable information that will be of benefit to others than in receiving numerous questions.]

SIR,—Please answer the following questions in your next issue:

- 1.—How much top onions should be sowed on $\frac{1}{4}$ of an acre?
- 2.—How much salt should be used on $\frac{1}{4}$ of an acre.
- 3.—How far apart should they be sowed in beds and how deep?
- 4.—Which is the most saleable—the large or small?

A SUBSCRIBER'S SON.

[For $\frac{1}{4}$ of an acre in drills 18 inches apart, it will take 7 bushels, 2 pecks and 2 quarts of onion sets. Seventy pounds of salt to that quantity of land is sufficient. Large onions are more saleable than small ones.]

SIR,—Please tell me in next issue the best manner of preparing and applying hen manure to field crops, and oblige,

SUBSCRIBER.

[Hen dung should be thoroughly mixed with stable manure, or composted with ashes or black muck, equal parts. It is too strong to apply pure.]

SIR,—I have an old orchard which has not had any attendance for some years; the trees are large and badly in need of pruning; they bear very little fruit, except the plum trees, which yield heavily every year. I intend to prune pretty heavily this month, and break up the sod in spring, and hoe into potatoes. Would it help to graft and girdle the trees? Should I girdle the trunk or just some of the branches? I set out some young trees and grapevines last spring; should I give them any similar treatment? I covered the grapes with horse manure when winter set in.

W. B., Ripley, Ont.

[It hardly pays to tinker up one of these old orchards, especially if it bears a lot of poor fruit only fit to make cider. When apple trees are large it is an indication of age, and their vitality is gone. Of course you may rejuvenate them for a time by pruning, grafting, digging about them and manuring, but it is doubtful if such trees will pay for the trouble. Cutting longitudinal strips of bark in the trunk is preferable to girdling. You don't want to meddle with your young trees if they are healthy and growing. You treated your grape vines properly; remove the manure as soon as spring opens.]

SIR,—Please give me your opinion of Hungarian grass. Will it do well in a N. B. climate? And what should an average crop yield per acre? Is it as good as timothy for feeding horses?

A SUBSCRIBER, St. John Co.

[Hungarian grass will thrive in the latitude of New Brunswick. An average crop is about 4 tons. It is not as valuable as timothy for horses, and should be fed sparingly to them.]

SIR,—Would you through your valuable journal tell me what is the disease and the cure for my hens? They act as though they were paralyzed in the legs; they fall to one side and make a noise like as if something was devouring them. They have been fed on buckwheat and corn; they eat freely to the last.

F. R., Millgrove.

[Your fowls have been fed too long on hard grain without a change of soft food. And the symptoms indicate that they have been kept in either cold or damp quarters without any exercise. Give soft feed mixed with cayenne pepper and sulphur; also put some tincture of iron in their water.]

SIR,—For a series of years there appears to me to have been a plan on foot to attempt the centralization of the expenditure of the farmers' money in Toronto—of course, more for the advancement of the interests of a few citizens than that of the great body of farmers at large, for whose benefit the Government grant is supposed to be made. No doubt the weakness of the Provincial Board of Agriculture tends towards the consummation of such a scheme of centralization. I do not, however, consider the plan is gotten up for the farmer, or tends to his benefit. It would be far better, in my opinion, to leave the farmers alone than to legislate against them. The voices of the intelligent, unbiassed farmers on this centralization question should be taken in the rural districts, not by a mere show of hands after a political orator's address, but this vote should be taken after fair, reasonable discussion. If our farmers do not look out, their money, which should be devoted to advancement of agriculture, will be spent in providing silly amusements for the citizens of places like Toronto. Hoping you will give this space in your valuable paper, I remain yours truly,
 JUSTICE.
 London Township, March 26, 1883.

SIR,—Could you give me the name of a good treatise on sheep, their management, &c?
 G. T., Hazledan.

["Randall's Sheep Husbandry," or "The Practical Shepherd," by the same author. See our book list.]

SIR,—I have a pear tree that is old enough to bear, but does not. Can you instruct me through the ADVOCATE what would be good for it, and what would be the best seed to sow on very sandy land to grass it over?
 SUBSCRIBER.

[Try root pruning, or bore the trunk with an augur. Kentucky blue grass would answer for your land.]

SIR,—I send you two heads of spring wheat. They are only small. From the average it yields very good. Please to send me the name of it. Which is the best wheat, Lost Nation or White Russian?
 E. W., Stanley Dale, Muskoka.

[1.—The heads arrived in such a bad condition that we were unable to identify the grain by the heads. 2.—We consider the Lost Nation and the White Russian the same wheat.]

SIR,—Have lost a great many of my hens this year. Their wings droop; stagger about; eat well, but get very thin; become blind and die. Can you give me cause and cure?
 A SUBSCRIBER.

[The description you give is hardly definite enough. However, we should conclude your poultry is kept in a filthy place, and that they are covered with parasites. Examine them. About two-thirds of the diseases of poultry may be traced to the effects of unclean houses and vermin. Cleanse your building thoroughly by whitewashing and fumigating with sulphur burnt in an old kettle; apply sulphur and lard under the wings of all your birds, or kerosene and lard. Mix sulphur and cayenne pepper freely in their feed, and give tincture of iron as a tonic in their water. Whether it is vermin or not, this treatment will answer for nearly all diseases that poultry is heir to.]

SIR,—On a farm where there is no manure for the coming season's root crop, I want to feed 100 lambs, buying in August and feeding on rape, then winter feeding till May. Would you advise me to purchase artificial fertilizers and grow roots, or buy bran and oil cake to feed instead, with my hay and grain? Would you, or some of your readers, give their experience in sheep feeding? There are numerous articles, both full and minute, on cattle feeding, but comparatively little Canadian literature about the feeding of sheep. This is a loss, surely, as sheep are very profitable, especially to those who, like myself, have not buildings fit to fatten cattle to advantage. The experience and figures from some practical farmer, to put side by side with the account of Prof. Brown, in his 1882 Report, entitled "Fattening of young sheep," would be profitable for comparison. Hoping you may be able to induce some practical feeder to give his experience, I remain, etc.,
 GEORGE C. S.

[We should be happy to receive from any of our readers the results of their experience in sheep feeding.]

SIR,—Have you got the Poultry Standard of Excellence? If you have, please answer through your paper.
 C. H. B., Norwich, Ont.

[You can obtain the Standard through any respectable bookseller. Price, \$1.]

SIR,—I have a thorough-bred Shorthorn heifer, two years old on 26th January last, which I expected to calve in middle of last month. She turns out not to have been with calf. She is very large and rather fat. Please let me know the best means of bringing her in. I fear that she may never breed, as she was so totally devoid of all signs of tendency that way since last May as to make us all sure that she was with calf.
 X. Y. Z., Eastern Nova Scotia.

[The only remedy for your heifer is to reduce her in flesh as much as possible, so as to keep her in fair thriving condition. From what you say, we fear it is constitutional sterility, and if so, the quicker you feed her for the shambles the better.]

SIR,—Bone-dust or superphosphate of lime, which is best for a limestone country? Mr. Lamb, of Toronto, favors bone-dust for a limestone formation. Do you think he is right? I have used mineral superphosphate, and it did well.
 A. R.

[Mr. Lamb is right in maintaining that bone-dust is preferable to superphosphate of lime for a strong calcareous soil. Lands deficient in lime, such as light sands, and also those rich in organic or vegetable matter, are most benefited by lime phosphates. Ground bone is richer in nitrogen and phosphoric acid than superphosphate, as the following will show: A ton of the former contains:

Nitrogen,	90 lbs.
Phos. acid,	450 "
Potash,	00 "

540

A ton of superphosphate contains:

Nitrogen,	70 lbs.
Phos. acid,	300 "
Potash,	50 "

420 lbs.

SIR,—Please answer in your next monthly, and oblige a subscriber. What kind of sheep are the Shropshires? What is their color? Are they good for mutton? How many pounds of wool will they shear? Is the wool fine? What is the best kind of summer fodder to sow for cows?
 J. L.

[See back numbers for an illustration and description of the Shropshires. Tares, Hungarian grass and corn.]

SIR,—Would you please state the quantity of linseed to the acre?
 W. B., Dunrobin, Ont.

[Twenty quarts sown broadcast, and half a bushel or 16 quarts drilled in.]

SIR,—I have been looking over the advertisements in THE FARMER'S ADVOCATE for a dog power for churning, and can find none. Please let me know where there are any manufactured? I should like one that is strong and durable, and that would churn for 10 or 12 cows. If you would give me the name and address of any manufacturer, with any remarks as to style and price, I will be very much obliged.
 A. N. P., Ullswater, Ont.

[We do not know the name of any manufacturer of such a churn. It would be well if manufacturers would use our advertising columns.]

SIR,—Having tried bone superphosphate with very good results on my turnip crop last season, I would like to sow it with my barley and oats this season. Could it be done at the same time as the seed is sown with the ordinary seed drill, and would you advise me to mix it with the seed, or put it in the grass seed box or part in both? We had to sow it in the drills by hand for the turnips, and it is a very slow process, and disagreeable too, from the offensive odor of it, but the result was wonderful. Most of my neighbors missed their first sowing; ours came away fine and strong; they were on poor soil with no other manure but the superphosphate. I tried only one barrel last year; I will use one ton this year. The farm has been run out before I came on it, and would not grow enough to feed the cattle for the three years I have had it, but with plenty of manure and work it is

coming round again. 2nd. Could you inform me about rye grass? Would it be any improvement for pasture to sow with clover, and what quantity? I have not seen any grown in this country; it is quite common in Scotland. Would it do in this dry, hot climate? I have got some seed of it to try and I thought I would ask you about it before using it. I have been looking in your valuable paper for something about it, but could not see it. An answer in your April number will greatly oblige, yours, a constant reader and subscriber,
 J. A., Drumbo, P. O.

[Drill in the superphosphate with your grain; most grain drills have a fertilizer attachment. Rye grass would decidedly improve your pasture; the climate is not too hot. Sow 10 pounds of clover and 6 pounds of rye grass to the acre.]

SIR,—I had a portion of land which I gave to School Section No. 1 for a school park—and for that only. Do you think the Trustees can sell it legally, and apply it to any purposes, such as a dwelling or anything else? J. S., Dunville, Ont.

[If the conditions you speak of were mentioned in the deed, the Trustees cannot.]

To Correspondents.

We do not hold ourselves responsible for what correspondents may send in. It is not necessary that the name of a correspondent should appear, but it is necessary that we should have it in our office. Regular correspondents might take a *nom de plume*. We are highly pleased to insert any useful information that is of importance to the public, and thank our numerous contributors for their valuable correspondence. We always try to find space for any that is of value to the public; but at the same time we must complain of many, and cannot avoid alluding to them. Some omit signing their names, others neglect to give their post offices, and some sign initials only. Many have sent enquiries for information they could ascertain by reading the advertisements; others ask for full information that would take two hours to reply to, whereas by referring to the index of their past volumes they could find the information asked for. Some may perhaps feel annoyed if we cannot waste time and stamps in replying to them. To parties who send no address, we would say, Be sure and sign your name and state your post office. Rather attempt to aid the staff by furnishing good, useful hints or valuable information that will be of value to the public.

The Soja Bean.

This new pulse is meeting with flattering recommendations from different parts of the country, and we hope our farmers will give it a fair trial, and should it be found deserving of general culture it will probably add largely to our resources in obtaining profit from the farm. The Soja bean, for a forage crop, will be well suited both for soiling or a green crop, and also for ensilage to mix with Indian corn.

Impure Milk.

There is a war raging at the present time between the milk dealers who supply the lacteal fluid to New York city and the dairymen in the surrounding counties. The professional milkman has never had a name for fair dealing, and every means of adulteration has been practiced by them on their unsuspecting victims in our large cities. The present trouble, however, about bad milk has come from another quarter, and instead of the professional milk dealer being the culprit, the dairymen who supply the milk are to blame. It appears they feed their animals on the refuse from glucose factories. This produces an extraordinary flow of milk, and hence this offal is eagerly sought after by those who keep cows. But the result of such feeding is the production of a poor and watery quality of milk, which soon undergoes chemical changes and becomes spoiled. The consumers, it appears, blame the milk dealers, and they in turn blame the dairymen. There is one thing certain, that feed has a great influence in determining the quality of milk, and it is not always necessary to water milk to have a poor class.



The Longfellow Corn.

This fine field corn is the result of careful selection in a family of Massachusetts farmers for forty-five years. The ears are remarkably long, some of them 15 inches, and oftentimes two or more good specimens grow on one stalk. The cob is very small. The kernel is very large and it is claimed to yield as high as two hundred bushels per acre (in the cob). It is highly spoken of by farmers in this part of Ontario who have grown it.

Notes on Goat-Keeping.

BY H. S. PEGLER.

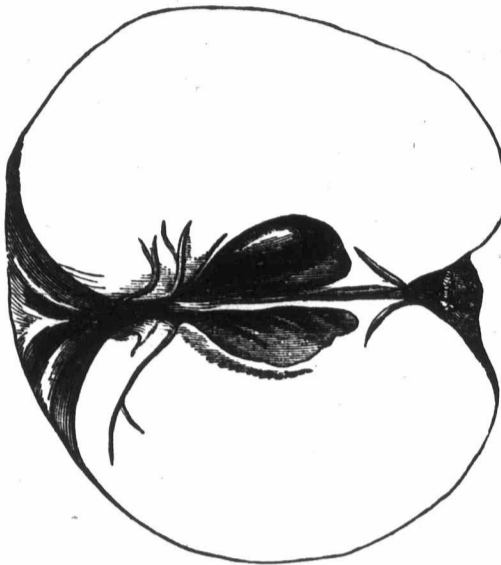
Those who intend to try the experiment of keeping a milk goat or two for supplying their household with milk, as many do every year, should commence at once. A small paddock, a piece of waste grass or common land is a great advantage, as it reduces the corn-chandler's bill to a mere nothing during summer; but such accommodation is by no means essential to success and profit if a fair-sized vegetable garden be attached to the house. Any outbuilding that has a dry floor, and is both draught and waterproof, answers for a goat-house, and if the former condition be not quite fulfilled, a raised bench should be provided for the animal to sleep on, and will be preferred to the ground.

Towards the end of the month, goats will rapidly be coming in profit, and may be bought with their kids, at prices varying from \$5 to \$15; but beginners will do well to purchase the goat without her kids, and this for several reasons. In the first place, kids are often a nuisance when they begin to run about, doing a lot of mischief with their young teeth; and they cannot well be tied up at this early age. Then, again, they cost in the milk they consume more than they are worth by the time they are weaned. And, in the last place, by buying the goat without the kids, you can tell what milk she is giving; and this should always be ascertained, if possible, before the purchase is completed.

It is better to keep one good goat than two inferior ones, although the cost may be double; a good specimen should yield nearly two quarts daily, whilst a common one will only make half that quantity. The cost of food is not much more, and the trouble reduced.

TO SECURE GOATS IN MILK DURING WINTER no time must be lost in mating. Some really first-rate stock may often be picked up cheap at this season, because they are dry, and the owners have no means of getting them in kid again. These will be likely to take the "billy" now successfully, and drop their young in July, from which time to November they will be full in milk, and demand prices perhaps three and four times what they cost, milking goats being then scarce. A good judge can detect a valuable goat for milk even when dry, but this cannot, of course, be expected from the beginner, unless he is experienced in milch stock generally. Two good guides are—a big barrel, showing a large and capacious stomach, an udder, whether large or otherwise, with a soft and supple skin, and a good appetite. A goat that eats anything and drinks tolerably freely on dry food—they seldom drink at all on grass, if dry, unless in hot weather—and has at the same time plenty of room for its food, is pretty sure to turn out a good milker. After this month the female goat is less likely to come in season, and when she does, the service of the male is not so generally successful, and she may have to be kept until next August or September before she is ready to mate again.

Do not neglect to roll the wheat fields this spring. A roller is indispensable on every farm.



The Nonparcil Apple.

The above engraving is a faithful representation of this excellent apple. See our article on page 104.

A Hardy Plant.

HALL'S HONEYSUCKLE.—If there are any of our readers who have not Hall's Japan Honeysuckle, they should procure a plant. Of all the honeysuckles this pleases us most. It will thrive almost anywhere, and may be trained, in several years, to be self-supporting in the form of large bushes, or



to cover stumps, trellises or the sides of low buildings. The flowers are nearly white when first they appear, turning to a soft buff in a day or so. The vines bloom from early summer until after frost, and the flowers are exquisitely perfumed.

When a potato is exposed to the light in a cellar, the eyes nearly all start a good healthy green sprout, but if in a pile, or in darkness, only the strongest eyes grow long, white, worthless sprouts. Hence, seed potatoes should be spread thinly in the light. The sprouts should not be broken off when cutting the seed for planting.

Members of the Elmira Farmers' Club who carefully tested the much-praised white Russian oats in comparison with other varieties, found them, *The Husbandman* reports, "inferior both in weight and quality, although appearance during the season of growth had indicated superiority."



Wall's Orange Potato.

This new candidate for public patronage was originated by Mr. Lyman Wall, of Monroe Co., New York, and this gentleman says for quality and productiveness it has no equal. It is claimed that with ordinary farm culture it yields 84 fold, and that finer cooking qualities cannot be desired. In color this new tuber differs greatly from any known variety in cultivation, so there will be little chance of counterfeit specimens in circulation, as has been done with several popular kinds, it being of a decided orange hue, from whence it derives its name.

Farming for Boys.

BY THE AUTHOR OF TEN ACRES ENOUGH.

The whole party worked together, each taking a row. Uncle Benny, having an old back, which he knew would very soon begin to ache if he should stoop much, had provided himself with a long-handled hoe. This enabling him to work without stooping, he flourished it about among the weeds so actively as to surprise the boys, who observed, moreover, that the old man contrived somehow to keep a little ahead of them all. Between the sharp hoes and the full force of hoers, the weeds had a poor chance of surviving that day.

Presently the youngest boy, Bill, while chopping vigorously at a thistle, struck his hoe violently against a stone. He was about repeating the blow, when the old man called out to him to stop and examine his hoe. Bill did so, and found a great indentation had been made in the edge. The other boys of course came round to see what was the matter, and they too saw how the keen edge of the tool had been turned by the blow against the stone.

"Now, Bill," said Uncle Benny, "pick up the stone, put it in your pocket, and when you get to the end of the row we'll put it under the fence, where you may be sure it will not be likely to dull your hoe a second time. All of you must do the same with the stones or broken bricks or oyster-shells you meet with, for I won't have anything on this ground big enough to dull a hoe. If you calculate on having sharp tools, you must keep the ground clear."

Well, after worrying through some rows that were much fouler than the others, the parties drew up to the fence, and Uncle Benny proceeded to file up the hoes for the second time that afternoon. He could see no actual necessity for doing so, but thought it could do no harm to gratify the boys. While thus engaged with his hoe resting on the fence, which ran along the public road, a stranger stepped up, and inquired if he would like to buy some trees or grape-vines. At the same moment he opened a large book which he carried in his hand, and, resting it on the top rail of the fence, displayed a highly colored picture of a bunch of grapes, larger and finer in appearance than had ever been seen by any of the party. They all gathered round the book as the man ran over the leaves with just enough deliberation to afford a full view of the magnificent specimens it contained. There were

great bunches of peaches, apples, plums, cherries, currants and other fruits, colored up and set off in just such a style as would be likely to tempt every one who examined them to become a purchaser.

Uncle Benny took the book in his hand, and made a long examination, during which the stranger was very lavish of his praise of each specimen as it fell upon the old man's eyes. Then addressing the stranger, he inquired, "did you raise all these trees?"

"O, no," was the reply, "my business is to sell them."

"Where were they grown?" inquired Uncle Benny.

"Well, a good way off," answered the stranger.

"But don't you tell us where they were cultivated, and who is the nurseryman?" continued Uncle Benny.

"Well, not often," was the answer.

"No," rejoined the shrewd old man; "I don't think we want to buy anything from a nurseryman who is ashamed of his name."

He closed the book, returned it to the stranger, and resumed his business of touching up the hoes. When the stranger was fairly out of hearing, the old man addressed the boys: "This man is what is known as a tree-pedler. Now, Tony, if ever you get a farm of your own, take care how you buy anything from a tree-pedler. Trees sold by these fellows are generally considered cheap because the price is low. But what is thus called a cheap tree or vine is the very dearest thing you can buy. You can't get a really valuable article without paying for it a fair price. Plants that are sold at an excessively low price should be avoided, as they invariably have some defect about them. They have either been badly grown, or been stunted, or have a poor supply of roots, or they are the refuse of a nursery which has been bought up by a pedler, to be worked off among the farmers. Especially you should never touch a plant, even as a gift, when the seller refuses to tell you where or by whom it was grown."

While the hoeing of this cornfield was going on, there was continual opportunity for observing the difference in growth of that end of the row which received the drainage from the barn-yard. The plants were double the height of the others, and there was a deep, rank green that was nowhere else perceptible. Here too the weeds grew taller and stouter, as well as more abundantly. Uncle Benny had always taught the boys that the greatness of a farmer's crop was not to be measured by the number of his acres, but by the thoroughness with which he enriched his land and the care bestowed upon the crop. His theory was to put a large amount of labor on a small amount of land. The two-acre cornfield was an excellent illustration of his theories. The boys saw for themselves that in that portion which received the washing from the barn-yard they would have a far greater crop than from the other portion, because of the full supply of manure which it received. Whenever he came to a remarkably fine hill of corn, the old man would tell them that the earth was really of no great use except to afford a standing-place for plants while the farmer was feeding them, and that money laid out in manure must not be considered as money lost because it always reproduced itself in the crop. He rarely gave chemical reasons, or used scientific terms, as the boys had had no knowledge of them.

But he explained how it was that plants acquired their growth. The earth kept them in an upright position, but they grew by feeding on the fertilizing materials added to the soil from water, and from the air which surrounded them. Both air and water were indispensable; hence the necessity for rain, and for the continued stirring up of the soil by harrowing the surface, so that the air should penetrate to the roots, and the water, in a heavy shower, should soak into the ground, instead of running off and wetting only the surface. Thus, if the day's hoeing was useful to the growing crop, it was made equally instructive to the minds of the boys, for a practical lecture was delivered on the spot, with fact and illustration united. Lessons thus learned are usually the most instructive, as well as most likely to be remembered.

When the day's work was done, the old man sat down upon the stump of an apple-tree to rest, the boys gathering about him, and Tony asked, "Uncle Benny, how much money can an acre of ground be made to produce?"

"Ah," replied the old man, "you ask me too much. It would require a great book to answer that question, and even then it would be only half answered. I do not think the capacity of an acre

of ground has ever been ascertained. You do not put the question in the right way. It is not the acre that produces the crop, but the man who cultivates the acre. All agricultural history is full of instances of this being the case. There are families who starve on fifty acres, while there are others who live comfortable on one or two. But another time we'll look a little further into this question, for it is one that a farmer's boy should have answered as promptly as possible. There are grown-up people, too, who would be benefited by examining the subject more closely than they have been in the habit of doing."

The Household.

What to Do for the Toothache.

BY A FAMILY DOCTOR.

The experience of most medical men, and that of the older dentist-surgeons, seems to prove that ailments of the teeth and gums, with decay of the former and consequent toothache, are rather on the increase than otherwise. I do not pretend to be able to advance any theory as to the *cause morborum*; their name may be legion; but nevertheless the fact remains that five out of every half-dozen young men, or young women, suffer either inconvenience or positive pain from decayed teeth. If I were pressed to give an answer to the question, Why is this so? I should reply that the causes vary with the cases. Inherited weakness of constitution, is doubtless one principal cause of decay in the dental organs. Dyspepsia, no matter how produced, is certainly another; and here I may add that cause and effect often change places.

These are general causes, and I may mention fast living, which tends to weaken the whole system, nervous, muscular, and periosteal; and the abuse of medicines, especially mercury.

Well, with reference to my present paper, I shall be quite satisfied that I have done some little good if I can but succeed in impressing upon the minds of a few of my readers these truths: 1. That the teeth are of the utmost importance to the economy of the system. 2. That their decay is dangerous to the health. 3. That this decay can in most instances be checked. 4. That toothache is in nearly every instance curable and preventable.

A tooth consists of three parts, or rather, I should say, is easily divided by the anatomist into three; the crown, the portion exposed; the root or roots, the portion or portions fixed in the jaw; and the neck, the portion that joins the two, and is covered by the loose gum. Furthermore, every tooth is hollow, and contains the dental pulp, which is well supplied with blood vessels and nerves, and is extremely sensitive. The greater part of the tooth is composed of what is called dentine, or ivory; in reality it is bone, but much harder in its construction than any of the other bones of the body. The *cementum*, which covers the roots, or fangs, is more nearly allied to true bone, while the covering of the crown, or exposed portion of the tooth, is dignified by the name of enamel.

If this enamel is worn off either in the ordinary process of wear-and-tear, or by the injudicious use of tooth-powders, one can easily understand how decay (caries) of the tooth may speedily follow.

Now, no one will doubt how important it is to possess really good and capable teeth, who remembers that mastication is the very first process of digestion. But mastication does not mean merely the division of food into portions small enough for the stomach to have easy power over; it means, in addition, the proper mingling or mixing of the food with the saliva.

Decayed teeth are powerless to perform their duties, but this is not all; they even poison the food—to some extent, at all events—which is partaken of; indigestion is the consequence. Indigestion means badly-formed chyme and chyle; from these the blood is manufactured, and it is needless to remind the reader of the many ills and ailments that may arise from unhealthy or impoverished blood.

It can easily be perceived, then, how caries of the teeth may work incalculable injury to the system. But in most instances decay of the teeth may be checked; and an attempt to do so should always be made, if only for the reason that caries in one tooth, if neglected, is almost certain to affect the others adjoining it, and so the disease spreads.

The chances of a permanent cure depend greatly upon the extent to which the decay has spread. If only a small hollow exists, the dentist will carefully remove the useless and diseased portions, and thereafter just as carefully fill it. If there be a still greater cavity, then there is no doubt that the pulp

has suffered, and in such a case the operation will be more tedious, but none the less successful. If, however, the tooth be a mere shell, and that shell itself not sound, it would be folly to go to the expense of the operation; it had better be extracted, and the sooner this is done, the less chance will there be of subsequent suffering and annoyance. Stumps are no good at all, but they may at any time be productive of a deal of mischief. They may act as foreign bodies—indeed, if quite dead they are nothing else—and set up inflammation of surrounding tissues, which may lead to dire results.

Teeth-filling is a somewhat difficult operation, and one which only an experienced dentist should be trusted to perform. I will not presume to say what is the best kind of filling, though I have a leaning to gold; but it ought to be something that will fit well, be capable of perfect manipulation by skilled hands, and not easily acted upon chemically by anything that may come in contact with it.

I have said that toothache is nearly always curable or preventable. Let me say a word about its prevention first. We should do all we can, then, to preserve the teeth. This, even in the most healthy people, can only be done by a free use of the tooth-brush, and a carefully selected tooth-powder. Tartar, as it is called, is a crust that forms about the neck of a neglected tooth, and never fails to work mischief, either to the teeth themselves or to the adjoining gums, in which by mechanical action alone it is apt to induce sponginess and ulceration. This should never be allowed to accumulate; if it does, indigestion is almost sure to follow, with its attendant miseries and ills.

Remember that all tooth-powders of a gritty nature, or such as contain acids, ought to be carefully avoided. The brush, I have often told my readers, should not be too hard, else it will irritate the gums and injure the enamel. Use the tooth-brush morning and evening, and before and after food. It seems bothersome to have to do this; but it soon becomes a habit—a habit from which no end of good may accrue—and is thought no more trouble than washing the hands.

It is a very commendable plan to pay periodical visits to the dentist. A man sends his mowing machine regularly to be set and seen to, but those natural mowing machines, his teeth, he permits to go to wreck, albeit their soundness may mean health, their decay the beginning of the end.

The causes of toothache must be removed or guarded against. These are often constitutional; but people in fair health may at times be physically lowered through work or worry, or both combined, and it is just at this time they are most liable, if exposed to cold or wet, to an attack of this most painful complaint. Let them guard against exposure at such times, and by a judicious course of tonic and aperient remedies, combined with attention to dietetics and hygiene, endeavor to restore tone to the system.

It would be impossible in one paper to enumerate even a tithe of the numerous causes that give rise to toothache; but before it can be successfully treated these causes must be found out and removed. I have no royal remedy to suggest for the cure of the complaint, no *eau-d'or*, one application of which will banish the pain. Even if I prescribe cotton wadding, pledget after pledget of it, saturated with chloroform, and held between the teeth until numbness ensues, I do not remove the cause of the ailment, and it may, and doubtless will, return with greater force when the effects of the anodyne have died away.

Is the cause constitutional?—do all in your power between the attacks to bring the health up to par, and try by living by rule to retain it so. A course of quinine, or quinine and iron, during the two or three weeks' interval that usually elapses between periodical attacks of toothache, often does much good. If the cause be local, good may be effected by cleaning out the hollow tooth, and then rinsing the mouth with lukewarm water in which carbonate of soda has been dissolved. Next, the tooth may be dried thoroughly, and a bit of fine cotton wadding inserted.

But extraction of stumps and filling of useful teeth are, after all, the principal remedies for toothache. Do not delay the operation until there is absolute pain. Such a course is positively cruel to yourself. The extraction of teeth now-a-days need terrify no one, as it can be done painlessly under the influence of nitrous oxide or laughing gas. It is a pity that the administration of gas entails so much expense. However, it is a saving to a patient in the long run, for the pain of toothache is so distracting as often to preclude the possibility of doing any work, either physical or mental, while the torture lasts.—*Cassell's Family Magazine.*

Family Circle.

NORA'S SACRIFICE.

By the Author of "Seed Time and Harvest,"
"Abbotslyn," &c.

CHAPTER I.

How was it? How did she gain that sweet silent power and strength that made us all look to and lean upon her in those dark days?

We often talked of it, my husband and I, when work was over, as we sat in our little home in the Australian bush, brightening the still hour by remembrances of home. And now, when Fortune's wheel has turned again, and we are rich, though scarcely happier, all our thoughts of those distant years are linked with the pure, quiet heroism of my sister Nora.

We were not a very united family. There had come no trouble on us to bind us more closely together, and, though called by one name, we were almost strangers to each other. Two of my brothers were married men, with young children; there was another at Eton, who was intended for a clergyman; and I had three sisters. The eldest of these was extremely "high" in Church doctrines, and was a devoted admirer of the perpetual curate of St. Mark's. Mary was married to a rich merchant thirty years older than herself, and lived in great grandeur and wretchedness. Then came Nora—clever, dashing, beautiful Nora; and I was the youngest—"Baby Lottie" our mother called me. There were two more household children, twin sisters, the delicate little orphans of our mother's sister, neglected and forgotten by most of us, yet happy enough in their quiet lives, with their governess.

For twenty years my life had been all sunshine. Active and healthy, with a keen sense of enjoyment, I had gathered all the flowers in my path, and had never found a thorn. The first shadow was very light—a summer cloud. My father lost his spirits for a while, and spoke darkly of losses in business. There was even talk of putting down the carriage and giving up our house, but it was only talk, and sun seemed to shine more brightly still.

We were at a flower-show with a Mr. Raymond and his mother, I remember, soon after this, and Nora and I lost our way among the fragrant alleys—much to my content, for I enjoyed the flowers better in silence, and Nora seemed wrapped in her own thoughts. We sat down to wait for our party, close to a stand of radiant sweet-smelling blossoms, and I made some remark of ecstatic admiration.

"Heaven cannot have brighter flowers," I said; and Nora turned and looked at me with a sweet smile that was peculiarly her own.

"Flowers won't fade there, Lottie."

"If we could only keep them from fading!" I said. "It seems cruel that they should die."

She looked into my face with a steady look, and for the first time I noticed how pale she was growing, how thin and worn she looked; and yet what peace was on her face!

"Lottie," she half whispered, "the flowers have a resurrection."

I know now what she was trying to say, to prepare me for what was to come—the shadow that was still darker and more terrible than her fears—but her words were interrupted by Mr. Raymond, who had found us after infinite trouble. Nora received an energetic though gentle scolding for playing the truant, and her color came back with soft blushes at his gay, bright words.

Mr. Raymond was very agreeable. We all considered it a great honor to be in his company—all but Nora, who never seemed to remember how famous he was—that he was one of the great writers and scholars of the day. He was about thirty, tall and well formed, and darkly bearded, but not handsome; the only "feature" of beauty about him were his dark eyes. He talked well, though in rather a dictatorial manner, and he was terribly passionate and exacting. But everybody liked and trusted him, and he was welcome in the homes of people whose very names were uttered in our circles with solemn reverence. Yet he liked the evening with us better than with others; and it had become almost a settled thing that Nora might marry him if she liked—and of course she could have only one thought in the matter.

The last month of the summer was marked by three events. First, the curate of St. Mark's died of a fever, caught in one of his visits to his poor parishioners; and poor Adelaide's heart was left desolate, and all her joy of life was gone. Secondly, our style of living suddenly became more extravagant than ever, and the house was always crowded with visitors; and my father became very particular about the richness and freshness of our dress. Thirdly, Nora lost apparently all taste for reading, or playing, or talking, and became deeply interested in details of household work. Early in the morning she would be in the housekeeper's room, making up accounts, preparing fruits for preserves, or cutting out coarse garments. Down in the kitchen we would find her helping cook—much to the dismay of that personage—or in the pantry, deep in the mysteries of preserves and pickles.

My mother was very angry at Nora's new enthusiasm, and many a lecture she received as to the duties of young ladies in her station of life.

One hot August day we were in the drawing-room. Poor Adelaide was sitting apart, with tearful eyes, working a design for an altar-cloth. I was finishing a drawing; and my mother was talking solemnly to Nora, who was sitting on a low chair beside her, with head bent and idle hands.

Mr. Raymond was announced in the midst of my mother's address, and Nora looked up with a pleading glance that had no effect on our irate mother.

"I was just telling Nora," she went on, when the greetings were over, and Mr. Raymond had seated himself near them, "that every station of life has its duties, and that I don't approve of her taste."

"Mamma!" she exclaimed, looking up with hot cheeks.

"It's of no use, Nora. We will see if Mr. Raymond can bring you to something half her time in learning to cook and to dust—and scrub, I do believe—and leaving her music and her German untouched?"

"It is very wrong, Miss Nora," he said; and I, quietly watching, could see how his eyes softened as he looked at her bent, flushed face.

"These little hands were made for finer work," and he touched them almost reverently as he spoke.

"Finer work!" cried Nora, scornfully. "Rattling over bits of ivory, or drawing impossible heads, as Lottie is doing?"

"I didn't mean work of that kind," said Mr. Raymond, gravely. "Come, Miss Nora, why are you wasting your time just now like this?"

"I want some occupation," she returned hastily; "and one ought to know everything."

"Ought one? But who can know a tittle of the knowledge that is to be known? Life is so short that every moment should be treasured; and what you are doing now is lowering your tastes, wasting your time, and spoiling your hands. They will soon get red and rough, like the cook's, and your mind will be filled with legs of mutton and beefsteaks, and you will get insensibly matter-of-fact, and be Nora no longer."

She did not answer, though her cheeks had grown quite white at his light, sarcastic words.

"Come," he went on, "let me give you some work to do. The proofs of my new work will come home to-day; will you look them over for me? I can trust to your taste and discernment better than to my own."

She hesitated, and the color came back in a rich glow to her face. They had talked over this book often, and many a passage Nora knew by heart. It was a great temptation.

"I will bring them over this evening," he went on, "and we will look over the first chapters together. I flatter myself that it will drive all thoughts of cooking out of your head."

"Thank you," said Nora, slowly; "but I don't think I can."

"What nonsense, child!" exclaimed my mother.

"No time," said Mr. Raymond, quietly.

"No time; indeed I haven't—and would rather not," replied Nora.

He kept his temper admirably, though it was evident that he was greatly annoyed.

"I am sorry that I should have asked you," he said, calmly, turning to my mother with some remark about the weather.

He left in a few minutes, and poor Nora received a terrible scolding. We were all of us angry with her, and thoroughly approved our mother's bitter remarks. Nora listened without a word, shading her face with her hands, and, when my mother had finished, my sister left the room, still in silence.

I followed her, fearing she would go to faint; and she walked like one in a dream up the broad stairs to her own room. As she closed the door I saw her face; the agony written upon it was terrible.

That night Nora received a letter. Years afterwards she showed it to me. It was as follows, as far as I can remember:

"I am willing to believe your manner to-day was caused by my presuming to lecture you; but you must be aware what motive led me to speak so. You are dearer to me than all the world beside. Don't let any cloud come between us, Nora; without your sweet face life would be a desert to me. I cannot live without you, my darling. I am not rich, but I know you will not think of that. I shall come for my answer to-morrow morning."

There was more in the letter, but that was the substance of it. Nora let no other eyes but hers see it. That evening she put it away in the secret drawer of her desk, blotted and blurred with tears, and wrote a little note, poor girl, with trembling fingers, telling Mr. Raymond that the sweet wedded life he dreamed of could never be. She came to my room with the note in her hand; she looked like a ghost in her white dressing-gown and with her whiter face.

"Will you give this to Mr. Raymond?" she said, putting the little missive on the table. "He will be here to-morrow morning."

"Oh, Nora, I thought you loved him!" I exclaimed, bluntly.

"Did you, dear?" she returned, with a faint smile; and then she put her arms round me and burst into tears.

What could I say of comfort, not understanding the trouble that shook her slender frame?

"I am going away," she said, after a while, keeping back her sobs—"going to Sidwell."

This was a farm on the border of Wales, which was our mother's property, having been settled on her at her marriage; we none of us had been there, and I opened my eyes in astonishment at Nora's words.

"Yes," she went on; "Mr. Jackson came up to London last week. He is going to give up the farm at Michaelmas, as he is going to America, and he came up about his passage. He goes back to-morrow, and I shall accompany him."

"Why, Nora?" I asked.

"I can't stay here, and I long to see Sidwell. It was mamma's home, you know. I am not very well, and change of air will do me good."

She kissed me, and went away to see the twins, and bid them good-bye, for she was going to start in the early morning. How she gained our mother's consent to this new freak I do not know, but she went away in the dewy freshness of the dawn, with the old farmer and his wife, who treated her as respectfully as a princess. My mother had a bad headache, and remained in her room, so I was *tete a tete* with my father at breakfast, for Adelaide was at church. He began questioning me about the amusements for the week, and said not a word of Nora.

"Enjoy yourself while you can, my dear. Make hay while the sun shines," he said, as he went away to his office.

I went up to the school-room to ask Miss Twist, the twins' governess, about a difficult passage in a new piece of music, had a little chat, and went down with Nora's note in my hand, feeling like a prisoner at the bar of justice. Adelaide was the only person in the room, and she greeted me with a solemn face.

"Nora has gone," she said, solemnly. "Wicked, wicked girl! She will suffer for her conduct. To encourage Mr. Raymond as she has done, and now—"

"I am afraid she is a terrible flirt," interrupted I, lightly.

"She is a bad, heartless girl. What would my feelings be now, if I had treated dear John as she has treated Mr. Raymond? She will be punished bitterly, Lottie."

"Ah, sisters are false friends often. If we had been Nora's bitterest enemies, we could not have judged her more harshly than we did. Heaven forgive us!"

The quick, familiar knock interrupted us, and Mr. Raymond came in and shook hands, looking round with an anxious face.

I put Nora's letter silently into his hand; and Adelaide remarked, in her staidest manner—

"My sister has gone into the country, Mr. Raymond."

He walked to the window, and stood with his back towards us while he broke the seal and read the few words within. His proud head drooped a little as he read, and it was some minutes before he turned to us again.

"Did you say your sister was gone, Miss Powell?" he asked Adelaide.

"Yes, this morning. I trust her conduct will not give you great pain, Mr. Raymond. She has annoyed us all most terribly."

"Do you think she cares for any one else?" he asked in a low voice.

"I am afraid she has lost her heart to some handsome

farmer," answered Adelaide, bitterly. "Her conduct would make us think so."

"Do you mean that?" he said, passionately; and Adelaide hastened to explain away her words, frightened at the look on his face.

CHAPTER II.

There followed a time when we missed Nora's step and pleasant voice, and Arthur Raymond dropped out of our life.

I had a romance of my own just then—a sweet, foolish dream that was only a faint shadow of my woman's love. It was very pleasant to be petted and worshipped, and Algernon was handsome and pleasant. Alas, I saw him last week, a ghastly wreck; and looking on my husband's frank, honest face, I thanked Heaven for the storm that swept away those early hopes.

One morning I was going into town shopping, and remembering that I had lent Nora some trifle of jewellery—I forgot what—I went into her room to get it. She had given me her keys, and I unlocked one and another of her drawers in a vain search; but turning over some things in her jewel-case, I came upon a piece of paper wrapped round some faded lilies of the valley. A few lines of poetry were written on the sheet—some verses that Mr. Raymond had written and given to her.

The lilies were his gift, too, in the early spring; and I put them back in their place, feeling that I had been looking into the secret of my sister's heart. Hitherto I had thought she must love Arthur Raymond; I knew she did now. What had made her give him up?

Later on I was thinking more about this than about the color of the silk I was choosing in a large shop in Regent Street, when my mother touched me on the shoulder.

"Here is Mr. Raymond."

He was with some ladies who had just entered the shop, and stopped to speak to us. He looked paler and thinner.

My mother went back to the silks, and Mr. Raymond stood at my side still.

"Is Nora at home?" he asked, in a low voice.

"No; she is still at Sidwell."

"I am going abroad. I have been asked to join an exploring party in South Africa. We shall be absent three years."

I remember now reading something about this expedition and its dangers.

"You are really going?" I asked.

"I have not given a definite answer. I shall not—" He hesitated and looked into my face with weary, pitiful eyes.

"I should like to see Nora again. I may never come back."

"Faint heart never won fair lady," I remarked, sententiously. "I should try again, Mr. Raymond."

His face lightened up like a boy's.

"Do you think—" Our conversation was interrupted here by my mother, and Mr. Raymond left us, saying he would call in the evening.

He came, and had a long talk with my mother and then with my father. I thought he would never go. But at last his good-byes were said, and I ran into the library eager to know the result.

"We are going to Sidwell," my mother informed me. That naughty girl must be brought to her senses."

"Who are going?" I asked.

"You and I and Mr. Raymond; he particularly wished you to be with us. I hope to goodness Nora will listen to reason."

"Bring her back," growled my father from his chair.

"I won't have my daughter stopping in wretched farm-houses."

It was a long, delightful journey to Sidwell. I enjoyed it wonderfully, and hardly thought of Algernon. It was late at night when we reached the quaint, ugly town, so we waited till the next morning to go to the farm.

The autumn day was still in its early freshness when we started off on our walk through great pasture fields, where cattle were grazing, and everything was strange and beautiful to my city eyes. The farm-house was in the midst of green fields; it was a low building, with great black cross-beams in the white walls. There was a wide porch covered with clematis, and a little garden crowded with old-fashioned flowers. Everything was very still and quiet, and, after knocking at the open black oak door, we stepped through the broad entry, catching a glimpse at the best parlor, into the great kitchen.

Not a soul was there; but we heard sounds of voices in a room beyond, and we went on and stood at the threshold of a large low room half filled with great iron presses and an immense furnace.

There were three people there—the farmer's wife and daughter, and Nora—Nora with all her hair tightly braided up, in a plain print dress, and a little white collar—Nora in a big white apron, with her sleeves turned up above her elbows—making cheese! She saw us standing in the doorway, and all the color left her cheeks, and her eyes darkened with infinite pain.

She wiped her hands, and came towards us, looking from one to the other like one who expected bad news.

"Mother!" The good old Saxon word came first to her lips.

Before my mother could speak, Mr. Raymond motioned to her to be silent, and, taking Nora's passive hand, led her into the kitchen. I remember how wonderfully pretty she looked in her simple dress—so fresh, so neat; it was no wonder he looked at her with such loving eyes.

"Has anything happened?" she asked.

"I am going away," he answered, in a voice that made me feel quite faint, it was so pitiful and tender in its pain. "I could not go without looking on your face again. Nora, Nora, must I go?"

She leant back against the dresser, turning her colorless face from him.

"Nora, do you send me from you?" pursued Arthur.

"Yes, you must go," she said, without looking up. "Good-bye."

He only heard the low cold words, and could not see the pain on her sweet face; but still he lingered, and spoke once more.

"Nora, don't you care for me? Won't you have pity on me?"

"I do," she answered; "but there is something dearer still to me. Oh, why don't you go?"

He looked down at her, his face gradually hardening.

"Heaven forgive you!" he said slowly. "You have trifled with my heart as carelessly as with a plaything."

He went from the kitchen, and we saw him striding out of the garden into the green fields. Nora did not speak or seem to hear our mother's angry words. Like a child she obeyed us, and went up and changed her dress for something more suitable, and packed her things to return to London.

"She is mad!" my mother said to me, a new fear taking hold of her. "She is mad, Lottie! She must be!"

(To be continued.)

Minnie May's Department.

MY DEAR NIECES.—You will, no doubt, be wanting to know all the novelties for the coming season. They are but few, there not being so many fresh introductions as improvements upon old models, and everything is universally late; so I fear a great deal that I tell you now will be supplemented by a wider knowledge, which will have to be acquired as time advances.

The walking dress claims our first attention. Braiding continues to be the great feature of walking and thick dresses of all kinds. When the skirts are box-pleated, the braiding is placed either on the face of the pleat or else in the spaces. Others have the plain underskirt and bodice ornamented with braiding, but not on the overskirt, which is very fully draped, but without ornament. Plaid wool dress goods are again becoming very fashionable. An exceedingly stylish costume made of black and white plaid trimmed with black velvet ribbon, is composed of a skirt and polonaise, and short cape that is added for out-door wear. The skirt is bordered with a deep side-pleating, the front breadth is covered over with a wrinkled apron drapery, which fills in the space between the open fronts of the polonaise. The front edges and bottom of the polonaise are trimmed with three rows of inch wide velvet ribbon, and the sides are looped with bows of the velvet. The cape is made to fall below the waist in the back, and in front curves away to the sides to cover the arms, but leaves the front in view. The edge has a border of velvet like the polonaise, and the front is ornamented with passementerie and cord.

The combination of plain goods and figured velvet or brocade is still in vogue. The prevailing fashion of cutting the edge of the bodices in tabs forms an excellent method for altering old-fashioned, round basques into something wearable. The tabs may be square, leaf or tongue-shaped, and must be cut out evenly and carefully. It will make a very pretty change to line the tabs with a color, especially if the dress be only little trimmed. This is a very effective method for velvet and velveteen basques.

Dark colors will not be worn so much as usual this spring, and, if used, will be mixed with a brighter hue, the latter employed generally as linings to the edges of founces, tabs and overskirts. Shades of pink, crushed strawberry, stem green, steel blue and terra cotta, are some of the fashionable spring and summer colors.

The wraps for early spring weather are made of ottoman repped cloth of light quality. The colors most shown are green, tan, brown, black and blue, and these colors with very dark red and orange shades, are combined in the plaids. The trimmings used are passementerie, braid, cord and tassels, heavy guipure lace velvet accessories, chenille fringes, bunches of steel, jet and shell, metal buttons, and long looped bows of velvet ribbon or of satin ribbon. Short mantles, visites and jackets will, this spring, take the place of the longer one of the past season.

Capotes made of the dress material, or combination, will be worn for early spring by young ladies and children.

The prevailing styles of spring bonnets are pokes of medium size and the small close shapes. Dark colored straws will be most used for general purposes, and can be easily trimmed with a full bow of velvet or large cluster of flowers on the top, or towards the left side in front of the crown. There may be one, two or even three pairs of narrow velvet or ribbon strings, or else a single pair much wider, varying from an inch and a third to two inches in width. Feathers are still used on round hats in great profusion. It seems to be the whim of the coming season to use yellow in nearly all black bonnets, either in gold cords, gold lace, tinted ponpons, or else in bright yellow flowers—dandelions, marigolds, button daisies, Mar-



shall Neil roses, etc. For light dress bonnets a covering of pearl-beaded white net over a colored silk crown, with a puff of the color around the edge and a cluster of flowers nearly covering the brim.

The materials for new parasols are ottoman silks, satins, watered silks and brocades lined with white and colored silk, and the trimmings are Spanish and guipure lace frills, borders of embroidery or of soutache, and a kind of tab fringe of the silk falling over a deep frill of lace.

All kinds of lace collars are much worn, some so large as to fall off the shoulders.

Ribbons are used in great profusion as dress trimmings. Satin ribbon to match the dress, tied at the throat in long bows and ends, are preferred to white lace for ordinary wear. Long bows and ends of ribbon on the left shoulder and on the skirt form a very stylish appearance.

MINNIE MAY.

Answers to Enquirers.

LADY JANE.—1. After the bride is dressed, word is sent to the bridegroom, and he comes to the door of her room, where she joins him, and they then proceed to the drawing-room where the ceremony is to take place. A simple "thank you" is sufficient answer to congratulations. The bride may or may not remove her gloves at supper, but if she partake of it, good taste would dictate that she remove them. 2. Cashmere is usually used for gentlemen's dressing-gowns, and the lining collar, cuffs and pocket-laps are of quilted silk. 3. The engagement ring is usually worn on the third finger of the left hand. After marriage it is worn as a guard to the wedding ring.

A SUBSCRIBER.—1. A lady does not rise when a gentleman is introduced, unless he is very much her senior, then it is a pretty courtesy. Usually a gentleman only bows when introduced, but if he should offer his hand, it would be very rude to refuse it. 2. Employ nothing to polish ebonised furniture but an old silk handkerchief.

TOTTIE.—1. Use bath-brick and oil to clean brass, but no acids; finish with whitening and a leather to give it a good polish. 2. Instead of embroidering your brown woolen costume, why not braid it with Soutache braid? The work will require less time, and is in much favor just now.

A BUSY MOTHER.—1. Wet the leather of the library-table with a little water to take off the woolen particles, and when they are gone, restore the polish to the leather with the smallest touch of thin gum-arabic. 2. The most inexpensive material for curtains and valances for bedrooms, is fine "factory cotton;" it washes and wears to perfection, and when trimmed with turkey-red twill bands, is really very handsome in appearance, and looks better and richer after every washing.

GEM.—1. Finish the playing of the piece which you have been requested to perform, and then, if acquainted with the last comers, you can bow or speak to them. 2. "Ethel" means "noble." 3. "One touch of nature makes the whole world kin," is from Shakespeare's Troilus and Cressida, act iii., scene 3. 4. When offered a choice always make one. It relieves the friend who wishes to do you a service, in what would be to you the most satisfactory way out of a difficulty. To decline to assist them thus, would be as ill-bred as to decline making a choice when asked so to do at dinner.

ANGLAISE.—1. What is the right way to spell the *Marseillais*, as I think I have seen a different spelling to this? 2. How is the word pronounced? 3. What is the nature of the hymn, that makes it so objectionable to some and so attractive to others? 4. Would you object to giving some parts of it in English? ANS.—1. The hymn is called the "Hymne des Marseillais," the hymn of the people of Marseille, or the "Marseillaise," short for "Hymne Marseillaise." The word *hymne* being feminine, the adjective takes an *e*. 2. As nearly as we can explain, *Marsay-yase*. 3. It is a most inspiring war-song. In the beginning of 1792, when a

column of volunteers were about to leave Strasbourg, the mayor of the city, who gave a banquet on the occasion, asked an officer of artillery, named Rouget de Lisle, to compose a song in their honor. His request was complied with and the result was the "Marseillaise"—both verse and music being the work of a single night. De Lisle entitled the piece "Chant de Guerre de L'Armée du Rhin." Next day it was sung with that rapturous enthusiasm that only Frenchmen can exhibit, and instead of 600 volunteers, 1,000 marched out of Strasbourg. Soon from the whole army of the North resounded the thrilling and firing words, *aux armes, aux armes*; nevertheless the song was still unknown at Paris, and was first introduced there by Barbaroux, when he summoned the youth of Marseille to the capital in July, 1792. It was received with transports by the Parisians, who—ignorant of its real author—named it "Hymne des Marseillais." 4. The following is the first verse, translation, no one of the metrical translations we have seen being good:

"Allons, enfants de la Patrie!
Le jour de gloire est arrivé.
Contre nous de la tyrannie,
L'étendard sanglant est levé.
Entendez-vous dans les campagnes
Mugir ces féroces soldats?
Ils viennent, jusque dans vos bras,
Égorger vos fils, vos compagnes!
Aux armes citoyens!
Formez vos bataillons!
Marchez! marchez! qu'un sang impur
Abreuve nos sillons!"

"Come on! children of the country, the day of glory has arrived. The bloody standard tyrannous raised against us. Do you not hear, in the fields, the fierce soldiery raging? They come into your very arms, to slaughter your children, your wives! To arms, citizens! Form your battalions! march! march! and let the impure blood water our furrows!" (The furrows of our land). The effect of the words in French, coupled with the music, is indescribably thrilling. We have nothing in English to equal the Marseillais.

Recipes.

To prevent the globes and chimneys of lamps and gas from cracking, put them in a saucepan of cold water, and let it come gradually to the boil; do not cover the saucepan with a lid.

Lamp wicks should be laid in vinegar before using; this will prevent the smoking or blackening of the chimney.

To WASH SILK STOCKINGS.—Wash them in cold water and with white soap; rinse them in cold water; lay them flat in a fine towel, roll it up tightly, and let them remain until dry; then rub them with a piece of dry flannel, to give them a gloss. As they must not be left in water, it is better to wash one pair at a time. Silk stockings washed in this way will always look new, and never require coloring or mangling.

To CLEAN GOLD JEWELRY.—Gold ornament may be kept bright and clean with soap and warm water, scrubbing them well with a soft nail brush. Then bury them in sawdust of box-wood and let them remain until dry. Imitation jewelry may be treated in the same way.

YORKSHIRE PUDDING.—To be eaten with roast beef. Three tablespoons flour, mixed with one pint of milk, three eggs, and a little salt. Pour into a shallow tin baking pan; put into oven, an hour before dinner, for ten minutes, then put it under the roasting beef and leave it till you take up the beef; then pour off the fat and send it to the table.

BAKED BATTER PUDDING.—Beat separately the yolks and whites of three eggs, mix three tablespoons of flour with a pint of milk and a small piece of butter; add the eggs; bake in a quick oven. Serve with sauce.

John Perry asks in Feb. No. for recipe for making clothes waterproof. The following will do this, it is said, and prevent mildew as well:

JNO. KIRBY.

Dissolve 1 lb. sugar of lead in 1 gal. soft water; 1 lb. alum in 1 gal. soft water. Dip into sugar of lead solution, soak thoroughly, hang up to drain, and when nearly dry dip into alum water. Dry either in open air or before a fire.

We have received from D. Lothrop & Co., of Boston, a very interesting book for young people, by Pansy, entitled, "The Man of the House,"—a very fascinating story, and calculated to exert an influence for good upon the minds of young readers. Price, \$1.50.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—For a longer time than any of you can remember, the 1st of April has been known as April Fools' Day, but why, no one seems to know. In old times April-fooling was quite a serious thing; and people were made so uncomfortable by senseless jokes, that they went out of fashion. The April-fool is not confined to any one land or any one language. In Scotland he is called the "April-gowk," and in France the "Poisson d'Avril" (April-fish.) Sweden has her April-fools, for a great Swedish traveller named Toreen writes: "We set sail on 1st of April, and the wind made April-fools of us." In fact, each and every country seems to have had its idea of giving one day at least to the business of being foolish, or making other people so. In Spain people play the fool in various ways on the Sunday and Monday preceding the season of Lent. Before very long, however, all April-fooling in civilized countries will probably be a thing of the past. As the world grows older, and people learn wisdom and common sense, they discover so many better and more reasonable ways of enjoying themselves, that such ridiculous practices are given up by common consent. I am very pleased to know my family of nephews and nieces are fast increasing in numbers. I gladly welcome all the new ones, and hope they will help Uncle Tom by sending in good, new puzzles, as well as the answers to the puzzles. Many ask how to address their letters. Merely "FARMER'S ADVOCATE, London," and I will receive them all right.

UNCLE TOM.

PUZZLES.

1.—TRANSPOSITION.

Eh ugahls lelw ohw hagsul tals.

MAGGIE F. ELLIOTT.

2.—My first is in ham, but not in shoulder,
My second is in iron, but not in moulder,
My third is in clown, but not in caper,
My fourth is in cloth, but not in paper,
My fifth is in oak, but not in ash,
My sixth is in window, but not in sash.
My whole is the name of an English poet.

NETTIE KEY.

3.—DECAPITATION.

Whole I mean the edge; behead, and I am a place for amusement; behead again, and I am a useful article; curtail, and I am a preposition.

ADA ARMAND.

4.—SQUARE WORD.

1. One of the points of a compass.
2. A word used by fishermen.
3. Something used for washing.
4. Something used by printers.

HANNAH CONNELL.

- 5.—1. A group of isles.
2. A country.
3. A relation.
4. An English river.
5. A town in New York State
6. An English river.

My finals read downwards will name a great man who was killed, and my initials read downwards his assassinator.

H. W. MCKENZIE.

6.—RIDDLE.

My first is a tumult,
My second's in candle,
My third is a small thing,
My whole never handle.

H. W. MCK.

7.—PUZZLE.

I am an object of great beauty, yet I am often made into a deformity; I am purchased at great cost, yet the poorest are frequently envied my possession; I am a frail thing, yet at loss of me strength has been reduced to weakness; I am easily managed, yet am shockingly cut and mutilated; I am found in every family, yet many would give a fortune to possess me; I am imitated by many, yet none ever equalled me; I am harmless, yet by me a young man lost his life; I form garments, am a trophy of war and love, and am manufactured into ornaments or treasured, as the dearest reminder of a lost friend.

ELIZABETH A. RIDDELL.

Answers to March Puzzles.

1.—

V
L I P
L U N A R
V I N E G A R
P A G A N
R A N
R

2.—Rome, oval, mail, Ella.

3.—Those who toil bravely are strongest. The poor become great.

4.—M.

5.—Hoe, hen, lynn, den (Hohenlinden.)

6.—N I N E.

7.—Violin.

8.—"Begin nothing without considering what the end may be."

9.—Mad-a-gas-car.

Names of those who sent Correct Answers to March Puzzles.

Renben N. Shier, Arthur Foster, Wm. J. Dowd, Elizabeth A. Riddell, Harry Albro Woodworth, Clarence C. Finch, P. Boulton, H. S. Tompkins, Esther Louisa Ryan, Charlie S. Husband, Mabel Hardy, F. W. Porte, Sarah Miller, Minnie Tegart, Maud Dennee, Hannah Connell, Annie E. Robertson, Ada Armand, Wesley Grigg, R. J. Risk, Harry H. Willson, E. E. Riselay, J. W. Forbes, Henry S. Lovering, Maggie F. Elliott, Elmer S. Bell, Robert Wilson, W. Town, Jessie James, Maggie Johnson, Henry Schuyler, Tom Ferguson, Polly Stewart, H. F. Anderson, Edith Swift, M. H. Howes, James White, Carrie Sutherland, O. A. Griffith, Fannie Lind, Arthur Meddock, Wm. Payne, Minnie Holmes, A. O. Gordon, John S. Martin, F. Murray Rose, Clarissa E. Cowan, Herbert W. McKenzie, T. Cockburn Kerr, Bertha A. Williams, James Watson, Meratta Ellis.

Little G...s' Column.

When the showers of April
Are falling so fast,
Just think, little dears,
That they soon will be past.

And the grass will be springing,
The birds will be gay,
And soon, little dears,
We'll have flowers and May.

What little girl will find the first wild flowers near her home? and which little boy will see the robins building first?

The Baby's Picture.

"We must carry our beautiful baby to town,
Some day when the weather is fair," we said,
"We must dress him up in his prettiest gown,
And wave his hair on the top of his head;
For all his cousins and all his aunts,
And both his grandmothers proud and dear,
Declare it is shameful and every way blameful,
To have had no picture of him this year.

He was three months old, when we took him before,
And he lay like a lamb on his mamma's lap,
And the darling now has a twelvemonth more
Of bewildering graces from sock to cap.
Just look at his dear little laughing face,
At the rosebud mouth, at the violet eyes—
Why, the photograph-taker, that vanity shaker,
Will think this time we have brought him a prize!"

We carried our child to the town one day,
The skies were soft and the air was cool,
We robbed him richly in fine array—
Ribbons and laces, and Swiss and tulle,
He looked like a prince in the artist's chair,
Sitting erect, and brave, and grand,
With a big red apple he scarce could grapple,
Held close in the palm of one dimpled hand.

"He is taking it now!" We held our breath!
We furtively peeped from behind the screen!
"What a pose!" we whispered, then still as death
Waited and baby was all serene
Till the critical moment, when, behold,
The sun was catching that lovely look,
Such a terrible roar it shook the floor!
And that was the picture the swift sun took!

A wrinkled face, and close shut eyes,
And a mouth that opened so very wide,
That our dear little sister, sibyl-wise,
Declares she can see the cry inside.
Aunts and cousins and grandmothers dear,
Haven't got over their anger yet;
But we thought it was funny, and paid our money,
For that strange phase of our precious pet.

Ah! children, older than baby, think,
Dear little children, blithe and sweet,
With your curls of gold, and your cheeks of pink,
And your naughty tempers sudden and fleet—
What an awful thing it would be for you
If an artist should happen along some day,
And observing the pouting, the frown or the
flouting,
Should take a picture of you that way!
—[Wide-Awake.

The Jolly Dog's Practical Joke.

'Twas near dinner-time, and the pudding was hot,
So Nelly, her cheeks all aglow
(The master liked icy-cold pudding), ran out,
And popped the dish into the snow.

For though on that morn smiling April was born,
A snow-heap that March left behind,
When he hastened away, in a dark corner lay
Of the garden, blown there by the wind.

Singing merrily, back to the kitchen went Nell,
When a jolly dog came up the lane.
"Aha! something good!" and he stopped and he
sniffed,
Looked around, cocked his ears, sniffed again.

Then, the gate being open, he boldly walked in,
Going straight to the snowy spot where
The dish sat a-cooling—three great gulps he gave,
And a pudding no longer was there.

Down the stoop flew the maid. "I must now take
it in,
For I'm sure by this time it is cool"
Said the dog, running off, "Pray don't trouble
yourself;
I have taken it in—April-fool!"

A Dime's Worth of Spring Poetry.

In the Spring the merry house-wife ties a rug
around her head,

In the Spring she breaks the furniture and dislo-
cates the bed;

In the Spring she has the carpet beaten till the
welkin rings,

In the Spring she swaps her husband's clothes for
china dogs and things.

In the Spring what's called "house-cleaning"
occupies the female mind,

In the Spring your wife some "bargains" gayly
starts her out to find,

In the Spring she pays two dollars for a tub that
has no hoops,

In the Spring she buys flat-irons, and arranges
them in groups.

In the Spring the prudent husband buys himself a
book of prayer,

In the Spring he soon discovers that he's better off
elsewhere,

In the Spring he lets the women turn things over
till they're tired,

In the Spring he finds it healthy to be more or less
retired.

Bridget's Wit.

A lady had in her employ an excellent girl who
had one fault. Her face was always in a smudge.
Mrs. ——— tried to tell her to wash her face with-
out offending her, and at last she resorted to
strategy.

"Do you know, Bridget," she remarked in a
confidential manner, "it is said that if you wash
the face every day in hot soapy water it will make
you beautiful?"

"Will it?" answered the wily Bridget. "Sure
its a wonder ye niver tried it, ma'am."

Sutton & Sons, the great seedsmen, write: "We
beg to express our greatest satisfaction at the
result of our advertising in your paper. It is
working very effectually among the farmers of
Ontario."

Commercial.

(THE FARMER'S ADVOCATE OFFICE,
London, Ont., Mch. 31, 1883.)

Another month of cold, steady weather. In fact
the month just out has been one of the coldest of
the winter.

WHEAT.

The wheat markets have been much easier the
past two or three weeks, with little disposition for
business by any in the trade. The late reports
from England are not very flattering. One report
says: A mild temperature, continued heavy rains,
gales and floods have been the leading features of
the weather for some time. As far as wheat is
concerned, an average crop is out of the question,
but any deficiency in the production of other cereal
may be made up by an increased yield in other di-
rections. In spite, however, of the bad weather,
both here and abroad, the upward movement in
the value of wheat makes very slow progress.

On this side the month of March has had less than
usual of weather unfavorable to the growing
crops, and if this condition is maintained it will be
difficult to tally values.

OATS

are scarce, and getting up pretty high. It is rather
remarkable that, notwithstanding the enormous
production of feeding grains of all kind, there is
hardly ever a spring but what oats are high.

CLOVER SEED

is again moving up. This time on account of the
local demand, which seems to want more than is to
be had.

PEAS

are also scarce, and dealers find it difficult to get
sufficient for their trade.

CHEESE

is very firm, and getting pretty scarce for local use.
The prospects are good for the early make, and if
prices are not forced too high we may see a good
demand.

FARMERS' MARKET.

LONDON, ONT., Mch. 31st, 1883.

Per 100 lbs

Red wheat.. \$1 65 to \$1 73	Dressed hogs \$7 50 to \$8 25
Deihl .. 1 60 to 1 73	Eggs, small lots 17 to 18
Treadwell... 1 60 to 1 70	Potatoes, bag 70 to 80
Clawson... 1 50 to 1 68	Apples... 1 00 to 1 50
Corn... 1 25 to 1 40	Roll butter... 25 to 28
Oats... 1 28 to 1 30	Tub " " 14 to 20
Barley... 1 10 to 1 50	Crock " " 20 to 23
Rye... 1 00 to 1 10	Cheese, lb 12 to 15
Poultry (Dressed)—	Onions, bush. 60 to 0 80
Chickens, pair 0 50 to 0 70	Tallow, clear 7 to 8
Ducks, pair. 0 50 to 0 70	" rough. 4 to 6
Turkeys, each 0 75 to 2 00	Lard, per lb... 12 to 13
Poultry (Undressed)—	Wool 18 to 20
Chickens, pair 0 00 to 0 00	Clover seed, 7 75 to 8 00
Live Stock—	Timothy seed.. 2 00 to 2 50
Milch cows.. 35 00 to 75 00	Hav, per ton 8 00 to 10 00
	Beans per bush 1 25 to 1 50

TORONTO, ONT., Mch. 31st.

Wheat, fall No. 1 \$1 97 to \$1 99	Apples, brl. 2 50 to 4 00
Wheat, spring 1 05 to 1 08	Potatoes, bu. 0 00 to 0 00
Barley... 0 60 to 0 71	Beans, bu. 1 25 to 1 50
Oats... 0 47 to 0 48	Onions, bag. 0 90 to 1 00
Peas... 0 76 to 0 83	Chickens, pair. 0 60 to 0 80
Flour... 5 15 to 0 00	Fowls, pair... 0 60 to 0 80
Rye... 0 60 to 0 65	Ducks, brace 0 80 to 1 00
Beef, hind qrs. 8 00 to 9 00	Geese... 0 90 to 1 20
Beef, fore qrs. 6 00 to 7 00	Turkeys... 1 00 to 2 50
Mutton... 9 00 to 10 00	Butter, roll... 0 23 to 0 28
Lamb... 10 00 to 12 00	Butter, dairy.. 0 20 to 0 23
Veal... 9 00 to 10 00	Eggs, fresh.. 0 20 to 0 22
Hogs, per 100 lb 8 25 to 8 40	Wool, per lb... 0 18 to 0 20
Potatoes, bag.. 0 75 to 0 80	Hay... 16 00 to 17 50
	Straw... 7 50 to 9 00

GRAIN AND PROVISIONS.

MONTREAL, Mch. 31st.

Wheat—	Oatmeal... 5 25 to 5 50
Can spring \$1 16 to \$1 18	Cornmeal... 3 85 to 4 00
Red winter 1 17 to 0 00	Butter—
White... 1 06 to 1 09	East'n Tp's. 18 to 22
Corn... 50 to 60	Morrisburg.. 18 to 21
Oats... 39 to 40	Brockville.. 17 to 20
Peas... 93 to 95	Western... 15 to 18
Flour... 4 95 to 5 00	Mess pork... 21 00 to 22 00
Superfine... 4 60 to 4 65	Lard... 14 to 14 1/2
Strong bak 4 15 to 5 40	Hams... 14 to 15
Pollards... 3 55 to 3 65	Bacon... 13 to 14
	Cheese... 13 to 14

CHEESE MARKETS.

Liverpool, Eng., per cable, 70s per 100 lb. Market very firm;
stock not very heavy.
LITTLE FALLS, N. Y., Mch. 26.—The sales of factory cheese,
to-day, 150 boxes at 13c. @ 13 1/2c. Butter—Sales of 250 packages
at 23c @ 26c., the bulk at 25c.

LIVE-STOCK MARKETS.

BRITISH MARKETS, PER CABLE.

CATTLE.

Liverpool, Mch. 29, 1883.—The cattle market very slow. De-
mand weak. The supply moderate and prices about the same
as last week. Trade rather discouraging to American ship-
pers.
Prevailing prices are as follows:

Choice steers.....	16
Good steers.....	15 1/2
Medium steers.....	14 1/2
Inferior and bulls.....	11 1/2 to 13

[These prices are for estimated dead weight; offal is not reckoned.]

SHEEP.

In the sheep market there was an active movement and
prices throughout the week have ruled stronger. The de-
mand is steady and the movement free at the prices.

Best long woolled.....	@21
Seconds.....	18@20
Merinos.....	17@18
Inferior and rams.....	15@16

[These prices are for estimated dead weight; offal is not reckoned.]

AMERICAN.

East Buffalo, N. Y., Mch. 28.

Market steady; firm supply; all sold; feeling for immediate
future was stronger. Light to good shipping steers, \$5 30 to
\$6 12 1/2; fair to good bulls, \$4 25 to \$5. Sheep and lambs.—
Good supply on sale; for ordinary grades market dull and
slow to shade weaker, while fair to good to extra sheep, prices
are firm at full opening rates of the week. A load of extra
lambs sold at \$8 per cwt. Hogs—Demand very moderate;
market a shade weaker at noon, limited supply being sold.
Yorkers, good to choice, \$7 65 to \$7 75, mostly \$7 70, good
butchers' medium \$7 75 to \$7 85, heavy \$7 90 to \$7 95. Pigs,
\$7 10 to \$7 30.

General Notices.

E. P. Roe, the well-known nurseryman, of Corn-
wall, N. Y., again invites small fruit growers to
send for his catalogue, for 1883.

Forest, Ont., is to have a new industry this summer.
D. F. Buchanan will erect buildings and put in the
necessary machinery for drying and preserving
fruit on a large scale.

At a late meeting of the Directors of the London
Horticultural Society a discussion took place on the
advisability of holding an exhibition of flowers and
early fruit in the city during July or August, and
the Secretary was instructed to ascertain if possible
the probable expense attending such a show.

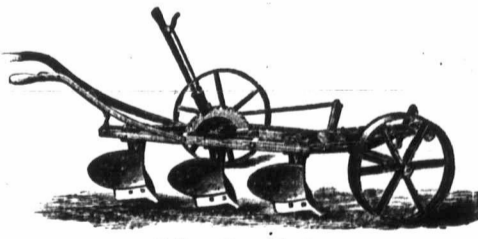
The attention of our readers is called to the
advertisement of B. Gott, nurseries, Arkona, Ont.
Mr. Gott is a well-known fruit grower, a leading
member of the Fruit Growers' Association, and we
are assured can give complete satisfaction to his
customers. Send for catalogue.

The Plummer Manufacturing Co., of London,
Ont., have an iron tank kept full of boiling oil, in
which they run their wagon wheels. The oil pen-
etrates all the pores of the wood, making the wheels
much more durable and less liable to shrink. They
have long enjoyed the reputation of building first-
class wagons.

We call attention to the advertisement of John
Elliott & Son, of London, Ont., to be found in an-
other column. This well established firm is for-
ward for the coming harvest with the celebrated
McCormick Appleby cord self-binder, which has
proven itself so highly successful, both in Canada
and the U. S., as one of the best binders extant.
The Messrs Elliott guarantee satisfaction.

NEW ADVERTISEMENTS.

DEATH TO CANADA THISTLES.



Eclipse Gang Plow.

Bungay Manufacturing Co.,
OF NORWICH,

Manufacturers of Agricultural Implements
generally, beg to call special attention to their
**Eclipse Gang Plow and Two-Horse
Cultivator.**

Send for Illustrated Catalogue and Price List to
THE BUNGAY MANUFACTURING CO.,
208-4 NORWICH, ONT.

Stock Notes.

A sale of five hundred valuable horses will be held at Grand's Repository, Toronto, commencing the 17th inst. The lot included all classes, from a pony to heavy draught.

Mr. George Darling, of West Zorra, had an increase this spring of 14 lambs from 5 ewes. Two triplets, one quadruple, and two with two lambs each.

Messrs. Green Brothers, of Oakville, Ont., have sold their Roan Shorthorn Bull, "Baron Leech," sired by imported Baron Surmise, dam Sily, to Mr. James H. Gardner, of Maple Grove, Lucknow, Ont.

Messrs. F. & A. B. Snider, of German Mills, Ont., have made the following sales: To Frank McCallum, Simcoe, the French Government approved stallion, Prince Napoleon. He was imported from France in 1881. This firm have also sold the half-bred Percheron mare, Darling, to Alex. Shornson, North Gower, for \$300; she is a fine specimen of the breed and weighs 1,400 pounds.

The Brantford Easter Fair was held on the 16th March. A good class of cattle were present, but hardly any buyers, and they did not offer over five and-a-half for the best, so that almost no business was transacted, and feeders will be slow to take out their stock another season. Persons who saw both the Guelph and Brantford exhibits say the latter was equal in quality though not in numbers, to that at Guelph.

Mr. A. Ross, of Greenbank, Ont., one of our most enterprising breeders, had an extensive sale of Clyde horses, Shorthorn, and grade cattle, on the 22nd inst. Five Shorthorns averaged \$209 a head. The grade cattle, including cows, 2 yearling heifers, a calf and a pair of yearling steers, fetched the large sum of \$3,014, or an average of \$111 each. The total sale amounted to \$8,071, with \$1,600 of fat cattle not sold. The stock was all kept on a farm of 250 acres of rented land.

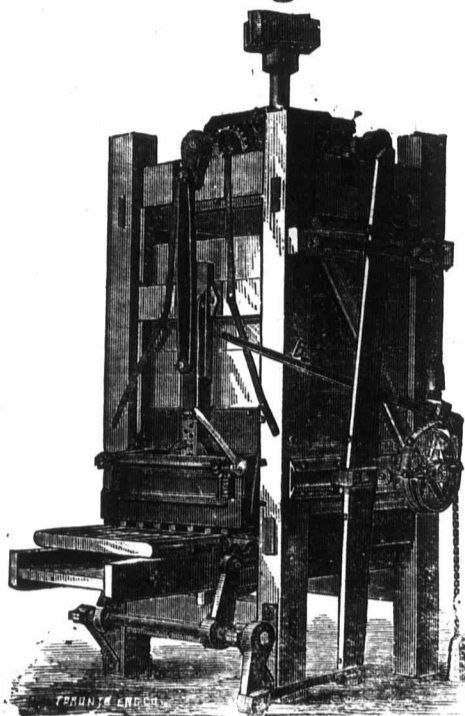
J. B. Jickling, Cargill, Ont., has just arrived home from Mr. M. W. Dunham's stable, Illinois, with one stallion two years old, and three mares, all imported from France, and recorded in Percheron Norman Stud Book. Two of the mares are owned by H. Cargill, of Cargill P. O., and one by J. B. Jickling; and Mr. H. Cargill and J. B. Jickling have the stallion in partnership. The stallion is two years and ten months old, and weighs 1,680; is jet black and very stylish.

Mr. J. Guy, of Sydenham Farm, Ont., recently sold the following Ayrshires to R. Elinsly, Esq., Toronto: The three-year-old cow, Oshawa Lass, 2nd; to Joseph Yuile, Esq., Carleton Place, Ont., the three-year-old bull, Sultan, also to the same person, heifer calf, Lady Belle; to Mr. McCormick, West Flamboro, cow, Rosebud; to Mr. McEwan, Priceville, Ont., three-year-old cow, Belle of Sydenham; to Mr. A. W. Smith, Simcoe, Ont., bull calf, Laddie, and the prize heifer, Model 2nd; also a pair of Berkshire Pigs; to Mr. David Peck, Elsie, Clinton Co., Mich., U. S. A., the yearling bull, Butterfly Prince.

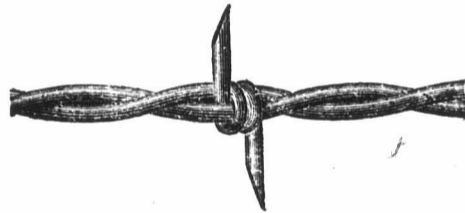
Sale of Sheep.—The sale of Southdowns on the 28th of February last, at the farm of the late Daniel Perley, Paris, was well attended, in fact there were over 1,000 people present. 39 breeding ewes brought \$1,016, an average of \$26 each; 16 ewe lambs brought \$336, average of \$21 each; 17 ram lambs brought \$345, average of \$20 each. A pair of imported ewes were purchased by Mr. B. F. Olmsted, of Ancaster, for \$101. Mr. H. Swayze, of Saltfleet, bought four pair thoroughbred Southdowns for \$226, and Mr. Thos. Wilkinson, of Glanford, added to his stock a pair of ewe lambs and a ram lamb.

The Council of the Agricultural and Arts Association of Ontario, and the Toronto Electoral District Society, have each contributed \$500 towards offering a \$1,000 prize list at a fat stock show to be held in the city of Toronto, in December next, under the management of a joint committee of the two societies. A liberal list of prizes will be offered. The first prize for cattle will probably be \$40; for sheep and hogs \$15, with graded 2nd and 3rd prizes. There will be a class for thoroughbred cattle, and a class for grades and crosses, besides a sweepstakes prize of \$50. There will be two classes in sheep, viz.: long wools and middle wools, with a sweepstakes prize. There will also be prizes for dressed carcasses, and for dead poultry. Canada ought to, and can, sustain a first-class fat stock show.

(Continued on page 126.)

FOR THE BEST
Brick Making Machine

Address E. & G. GURNEY & CO.,
Send for Catalogue. Toronto.
Mention FARMER'S ADVOCATE.

The "Glidden" Patent
TWO POINT
BARB FENCING.

The PATENT STEEL BARB FENCING of the WASHBURN AND MOEN MANUFACTURING CO., consists of two stout wires, carrying at short intervals of space (five inches), a firmly twisted barb, that presents two PRICK-LIKE POINTS to REPEL assault and COMMAND the respect and forbearance of all trespassers, human or quadruped. Certain well ascertained facts have been ascertained as follows:

1. BARB WIRE FENCING should consist of at least TWO WIRES twisted together; for the sake of STRENGTH, and the better to resist all Changes of Temperature.
2. The BARB used in connection with two wires should not be twisted around both wires, which defeats the object of the two wires, preventing their coiling together or uncoiling slightly with the cold or heat.
3. The BARB must be short enough, so that it will not necessarily tear the animal. A sharp instantaneous prick is all that is needed.
4. The BARB must be firmly twisted upon ONLY ONE of the two wires; the second wire thus holds it in its place.
5. The BARB, with reference to the main wire or wires, should not form in the slightest sense a HOOK.
6. BARBS two in a group are more effectual than four in a group.
7. The BARBS should be as light as possible in weight, and still be efficient, for the MATERIAL IS BOUGHT BY THE POUND.

The BARB WIRE FENCING manufactured by us includes and assures the foregoing essential merits.

Farmers, insist upon having the TWO POINT and take no other style, no matter how persistently you are urged.

Write us a Postal Card and we will send Pamphlets, &c.

Washburn & Moen Mfg Co.,

207-1 59 and 63 COLLEGE ST., MONTREAL.

GRAPE VINES!

1,000,000 at Concord, 1 year, \$15 to \$20 per 1,000;

2 years, \$35 to \$40. All other varieties cheap. All kinds of fruit plants and trees.

DR. H. SCHREIBER, Bloomington, Illinois.

SHIRE HORSES

Five Imported Superior Shire Stallions
FOR SALE

—ALSO—
Five Imported Shire Mares.

Terms reasonable.

N.B.—To Agricultural Societies:—One or two of these fine Shire Horses may be engaged for the coming season by a good Society where good mares are kept.

For particulars address

GEARY BROS.,
206 Bli-Bro Farm, LONDON, ONT.

VALUABLE OPPORTUNITY.

A FARM OF 400 ACRES IS OFFERED for sale in the best portion of Manitoba, situated 44 miles from High Bluff station on the C. P. R. and same distance from Poplar Point station; 2 miles from Assiniboine P. O. and 11 miles from Portage La Prairie. Well settled neighborhood. Schools and churches close at hand. Certified plan and description of property sent on application to J. B., Free Press Office, London, Ont. 207-1f

FREE OF THIS Advertisement! A Splendid Timekeeper. Every Reader



In order to advertise HOUSE AND HOME, and secure subscribers promptly, we have decided to make the following most princely and magnificent offer to each and every reader of this paper: It is the common practice of the gold and silver refiners of England and Switzerland to purchase from the purveyors of their respective countries all the gold and silver watches which have been unclaimed, simply for the sake of the gold and silver cases. The works are then sold to a celebrated watch firm who have made a specialty of this business. This firm places the works in the hands of skillful workmen, who set to work and put them in as good condition as possible. These works embrace every variety of movement, some of them being very fine and perfect timekeepers, all handsomely cased. We have just purchased the entire stock (25,000) of a bankrupt concern of the above described watches at less than the first cost of the raw material.

On receipt of \$1.50, the subscription price of HOUSE AND HOME, and \$1.00 extra to pay for packing, postage, and registering, we will send HOUSE AND HOME for one year (12 numbers) and one of these watches, postpaid, to any address in the United States. Watch a mailed the day the order is received. The watches were purchased specially to go with HOUSE AND HOME, and will be furnished only to the subscribers to that publication. In order to introduce it at once we make this unusual offer, which could not be made were it not for the fact that we bought the watches at one-quarter cost of manufacture.

On receipt of 50 cents extra we will send our new and elegant watch chain, with a whistle charm and dog call attachment—just the thing for hunters and sporting men. Money returned if not as described.

Address METROPOLITAN PUBLISHING CO.,
258 Broadway, New York City, N. Y.

WHAT THEY SAY OF US.

West Point, N. Y., Oct. 17, 1882. Metropolitan Publishing Company. Gent: I am in receipt of the handsome premium watch sent me. I was much surprised to know that you could supply so good a timekeeper for so little money. HOUSE AND HOME alone is worth the price. Enclosed please find six (6) new subscriptions at \$2.50. Please send me 6 premium watches the same style as the last. Very truly yours, Edward S. Farrow, U. S. Army.

Murfreesboro, Tenn., Sept. 20, 1882. Gent: watch arrived *** all right in timekeeping qualities. Jesse W. Sparks, Jr. St. Paul, Minn., Sept. 14. Premium received, and a nice one it is. Gen. R. W. Johnson. WRIGHTTOWN, Minn., Sept. 20, '82. Received premium last night. Will satisfied. Martha Goodale. Testimonials like the above received every day.

N. B.—The popular and beautiful weekly publication known as HOUSE AND HOME, illustrated newspaper (Established in 1858) is one of the best and most elegantly illustrated weekly newspapers of the day, full of News, Art, Science, Fashion, Music, Poetry, Curious Stories, Wit and Humor, Useful Knowledge, and amusement for every American home. In fact a pictorial history of the world from week to week—eight beautifully illustrated pages—same size as Harper's or Leclle's illustrated weeklies.

BRITISH AMERICAN SHORT-HORN ASSOCIATION!

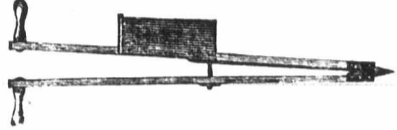
The First Volume of the British American Short-horn Herd Book is now ready for sale. Price \$2. Pedigrees intended for the Second Volume should be forwarded with as little delay as possible, in order to avoid crowding the work towards the close.

R. L. DENISON, Sec.

SMALL FRUITS! and GRAPE VINES. One of the largest and finest stocks ever grown, combined with exceedingly liberal offers at exceedingly low rates. All the leading novelties. Illustrated descriptive Catalogue Free. E. P. ROE

CORN PLANTERS!

THE BEST & MOST RELIABLE. THE LEADER.



The "Leader Planter" is the best adapted for planting Corn or Sorghum on heavy or hard ground.

KENT PLANTER



The "Kent Planter" is best adapted for planting Corn or Sorghum on loam or well pulverized soils.

Either of above Planters will pay the cost in half a day's work. AGENTS WANTED. For further particulars address

THE OTTER SWEEPER CO., MANUFACTURERS, 208-a OTTERTVILLE, ONT.

WATER STAR AUGER!

\$20 Per Day for Well Boring!

HAS NO SUPERIOR! FIRST PRIZE AND DIPLOMAS! BORES 20 FEET PER HOUR, HAND OR HORSE POWER.

STAR AUGER COMPANY, 68 MARY ST., HAMILTON, ONT. Send for Catalogue.

RUSSIAN MULBERRY TREES

ARKONA NURSERIES

GRAPE, PRENTISS.

These fruits are new and very promising, and should be introduced on every farm and in every garden. Also, a large and varied collection of fine, healthy

Nursery Stock! of well-rooted and hardy Fruit and Ornamental Trees and Plants at low prices.

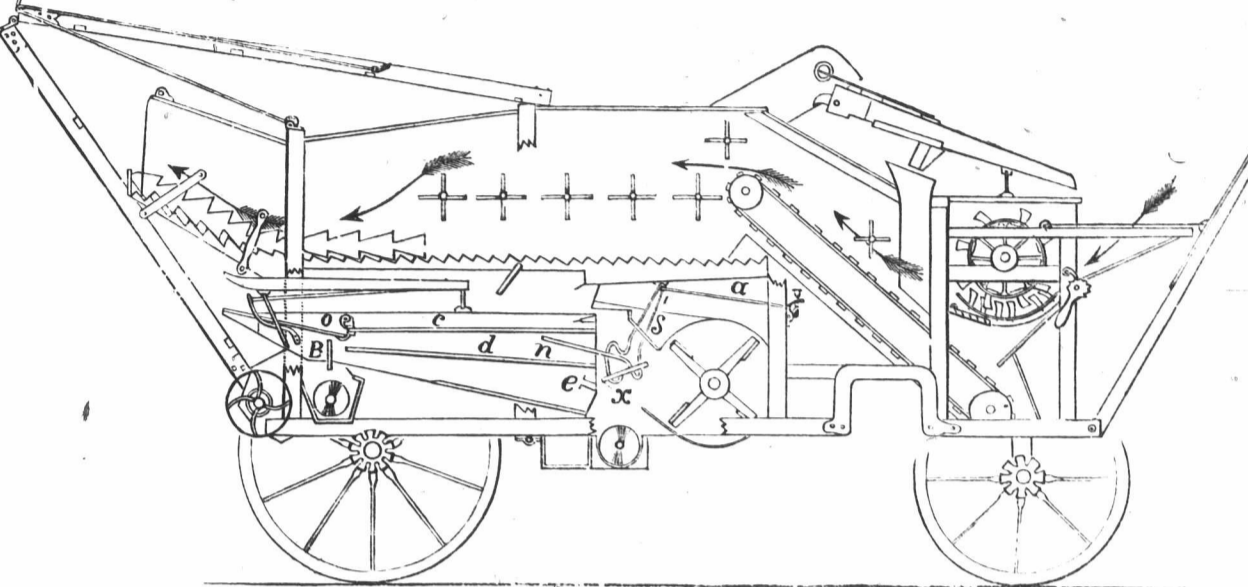
A fine stock of beautiful Greenhouse Plants. Send for our new priced Catalogue, just issued, and address all orders to

B. GOTT, Prop., ARKONA, ONT.

J. H. TENNENT, VETERINARY SURGEON

(Late of the firm Rudd & Tennent.) Calls from a distance by telegraph or otherwise promptly attended to. Communications concerning Horses or Cattle answered free of charge. OFFICE—King St., opposite the Market. RESIDENCE—Cor. King and Wellington Sts.

SECTIONAL VIEW OF MILLER'S "NEW MODEL" VIBRATING THRESHER.



MANUFACTURED BY THE JOSEPH HALL MANUFACTURING COMPANY, OSHAWA, ONTARIO

The Most Perfect Thresher, the Most Perfect Separator, the Most Perfect Cleaner Ever Offered to the Public. The Only True Grain Saver.

To the Editor of the Canadian Post:

SIR,—Please allow me space in your valuable paper to make the following statement, which I know will be of interest to all my farmer friends who read your journal. I employed a threshing machine to thresh my grain on the 26th day of January. It was manufactured by John Abell, of Woodbridge. On February 6th I employed Messrs. Wetherup & Curtis to finish my threshing with a "New Model" Vibrating Threshing Machine manufactured by the Joseph Hall Manufacturing Co. of Oshawa.

Messrs. Wetherup & Curtis re-threshed part of the straw and chaff threshed by the Woodbridge machine, and took therefrom thirty bushels of clean barley.

This "New Model" Vibrator is the most perfect thresher, separator and cleaner I ever saw.

Yours very respectfully, DAVID GRAY, 2nd Con. of Ops.

Ops, February 18, 1883.

Prince Albert, Dec. 18th, 1882.

To the Editor of the Port Perry Standard:

SIR,—I desire to call the attention of the farmers of this vicinity to a new Threshing Machine made by the Jos. Hall Manufacturing Co. of Oshawa, called the New Model Vibrator. Mr. Jos. Vickery bought one of these machines, and threshed for me four days this winter, and gave me entire satisfaction. With the construction of the screens, vibrating motions, and other attachments, I think it utterly impossible for any grain to be wasted, and am fully convinced in my own mind that it has saved me double the price of threshing in the saving of grain this season. It cleans the grain perfectly and threshes very rapidly. It is the most perfect thresher I have ever seen or used. It is a real grain saver.

Yours truly, JOHN McDONALD.

208-d

Black Creek, Nov. 13th, 1882.

Mr. F. W. Glen:

DEAR SIR,—I thought I would write to you and tell you how I got along with the "New Model" Thresher I got of you last summer. I will tell you the truth, and nothing but the truth. The machine has given me perfect satisfaction wherever I have threshed. I could not begin to thresh for all who wanted me, and could have had jobs enough for two machines if I had had them. The farmers whom I have threshed for say that the "New Model" is the only perfect machine they had ever had thresh for them.

Yours truly, JOSEPH SHERK.

Be Sure and Examine the "New Model" Before you Purchase.

HORSES.

The most extensive sale stables west of Toronto, 160 HORSES NOW ON HAND. Orders filled. Address MOODY & RATTENBURY, Clinton, Ont.

NOTICE TO DAIRY AND CHEESE FACTORY MEN

I am manufacturing Cheese Vats and Dairy Utensils, also the Stevely Iron-clad Milk Can which for strength and durability surpasses all others. Orders solicited. Prices on application.

WM. STEVELY, 362 Richmond-St., London, Ont.

LINSEED CAKE

Linseed Cake Meal

The Best Food Known for Stock. For sale by the Manufacturers. Quality guaranteed pure. Quotations for any quantity sent on application.

Wright & Lawther Oil and Lead Man'g Co.

206-1 Chicago, Ill., U. S. A.

WHITE RUSSIAN OATS

Grown from Imported Seed.

The best and most reliable White Oats, free from rust and smut. Price, per 80 lbs. with bag, \$2. Also, Arabian, a new gray oat, three years grown in Canada. Price per bag of 2 1/2 bushels, with bag, \$2. Being farmers ourselves we test all new grains two years before offering for sale. Remit by registered letter or P. O. Order. Give name of Post Office, also of Railway Station and Express Office. State how you wish it sent.

Thos. & Jas. Manderson, Box 116, Guelph P. O., Ont.



THE CHAMPION ROAD MACHINE

THE BEST IS ALWAYS CHEAPEST WHERE MUCH WORK IS TO BE DONE. Address for circular G. W. TAFT, Abington, Conn.

BROWN'S PATENT HAY LOADER.



Since the first introduction of the Hay Loader, each succeeding year has added every evidence of its practicability, and it is now considered one of the greatest labor-saving machines of the age. It requires no extra men or horses, being attached to the rear of the wagon and operated by the same team that draws the load, adding to the draft the power of one man. It will load a ton of hay in five minutes, taking it up as clean as can be done with a fork. Although originally intended to run on hay raked in windrows, it may be used in heavy unranked hay, and will work equally as well in all kinds of loose grains, especially barley. For price, testimonials, and all particulars, address

JOHN RUSSELL & CO., Proprietors Ingersoll Foundry and Agr'l Works, INGERSOLL, ONT.

Manufacturers of the Ingersoll Reaper, Ingersoll Mower, and all kinds of Agricultural Implements.

Prize Fowls

FOWLS FOR THE FARMER

Unapproachable Black and other Hamburgs, Plymouth Rocks, Brahmans, Poland, Spanish, Leghorns and Cochins. Send at once for Eggs and circular describing.

FRANK SHAW, Breeder of Prize Fowls, LONDON, ONT.

207-b

FRUIT & VEGETABLE EVAPORATORS

The Pacific all brick and iron stationary, and the Little Giant Portable Fruit and Vegetable Evaporators have the largest drying capacity for price of any in the market. They are designed for the rapid curing of all kinds of fruits and vegetables, meats, &c., which retain their natural flavor and color for any length of time in any climate. Send for circulars (illustrated) and particulars to

J. A. & H. BARTHOLOMEW, Managers and Proprietors for the Dominion of Canada and State of Michigan, AGENTS WANTED.

Vanessa P. O., Ont.

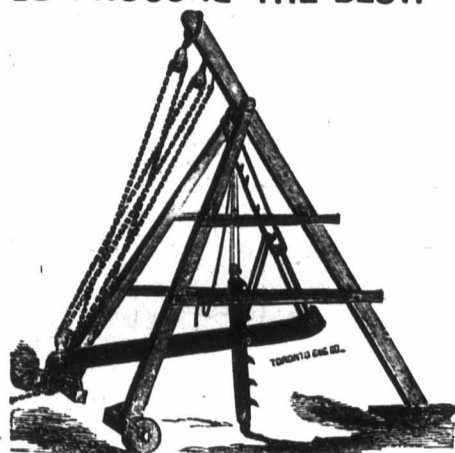
MR. C. B. RUDD, VETERINARY SURGEON.

can now be consulted at

175 Horton St., London, Ont.

207-1

PROCURE THE BEST.



The Whitfield Stump Extractor.

The superiority of this machine consists in the rapidity and ease in which it can take out the largest stumps; the ease with which it is operated by man or beast, and the great strength and durability of this machine. It leaves no holes to fill up, nor any stumps or snags in the ground. Send for circular of testimonials and particulars about it before purchasing an inferior machine.

Address, **JOHN WHITFIELD,**
Dominion Chain Works,
Front Street, Toronto.

202-tf

The "CHAMPION" QUINCE

The Largest, Hardest and most Productive Quince ever sold. Will keep in ordinary cellars until February. They sold last fall in Liverpool for \$40 per barrel. For terms and description address

203-a **D. C. WILDEY, Albany, N. Y.**

For Sale, a few Choice Shorthorns

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

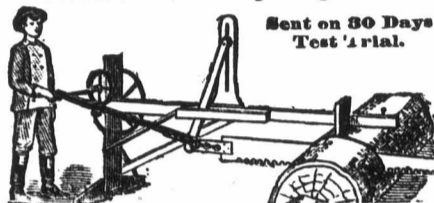
208-a **WM. LINTON, Aurora, Ont.**

EGGS for HATCHING

Langshans per 13, \$2.00. Buff Cochins, Brown Leghorns, White-footed Bantams, prize winners at Industrial, Pekin and Aylesbury **DUCKS** at \$1.00 per sitting. 13 first and 2 second prizes on 15 pair shown at Perth Show, in competition with 146 pair on exhibition. Address

207-tf **R. A. BROWN, Cherry Grove, Ont.**

Sawing Made Easy
With the Monarch Lightning Saw!



Sent on 30 Days
Test Trial.

A boy 16 years old can saw logs fast and easy. Mr. S. Murray, Portage, Mich., writes: "I sawed off a 30-inch log in 2 minutes." For sawing logs into suitable lengths for family stove-wood, and all sorts of log-cutting, it is peerless and unrivaled. A great saving of labor and money. Sent on Test Trial. Illustrated Catalogue, Free. Address, **MONARCH LIGHTNING SAW CO., 163 Randolph Street, Chicago, Ill.**

STOCK NOTES.

(Continued from page 124.)

Nims Bros., of Ridgetown, have bought from Gen. Withers, Lexington, Ky., a trotting stallion named Orontes, paying \$1,000.

Mr. Robert Moorhouse, of Sutherland's Corners, County Lambton, has recently bought from John Snell & Sons, Edmonton, the yearling Shorthorn Bull, "Hazelcote Seraph," 24, B. A. H. B., and the heifers, "Sweetheart," and "Keepsake," said to be a very handsome trio.

The Geary Bros., Bli Bro Farm, London, Ont., held an extensive sale of Aberdeen-Angus and Hereford cattle in Dexter Park, Chicago, on April, 4th. The stock, which were of recent importation, were all in first-class condition. We are unable to say up to going to press how prices ruled.

The Weymouth Agricultural Society, N. S., recently purchased a pure bred Devon Bull and two Leicester Rams. An annual exhibition was held, at which premiums to the value of \$67.92 were awarded; although not fully patronized by the members, it was a better show than any previous one.

In the dairy districts of the West of England the black Berkshire pig is in favor from its hardihood and cleanly appearance where straw is somewhat scarce. Its vigor is fairly put to the test by grazing the in-pig; sows and yelts in the open fields during the winter months—a plan that seems to have the additional advantage of procuring for the young brood an ample supply of milk.

SIR,—Kindly inform G. W., Salford, Ont., in your next issue, that the Agricultural and Arts Association publish a Clydesdale Stud Book, as in your March number you referred him to the Secretary of the National Clydesdale Stud Book, Chicago. Yours truly, **HENRY WADE, Secretary.**

[This information was received late, and hence we had to put it in this column.]

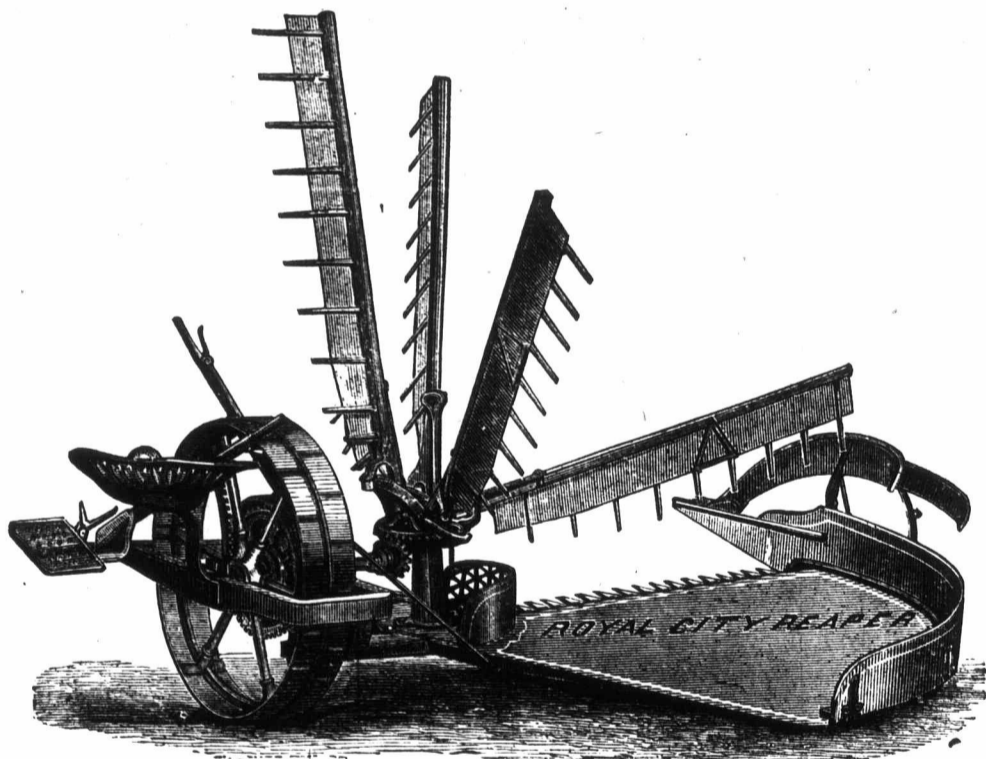
The following are the recent sales from the "Elmdale herd" of Shorthorns, owned by Thos. Nicholson & Sons, Sylvan, Ont.: To G. W. Keast, St. Ives, Ont., "Parallax;" to Edward Pearson, Cairngorm, Ont., "Transit;" to R. Cooper, Parkhill, "Valasco;" to Neil McKillop, Brnsh, "Royal Charger;" to Ray & Murry, Bosanquet, "Royal Rambler;" to Cathro & Thomson, Biddulph, the heifer calf, Princess Dagmar 7th. They have lately added to their herd the Shorthorn heifer, Leona 2nd, and her heifer calf, from the herd of J. D. R. Hunter, Alma. They have now thirty-three females in their herd.

A. S. Chamberlain, who has kept the "Old Bull's Head Stables," in New York city, for over forty years, speaking of the one-half and three-quarter blood Percheron Norman horses, said: "They are the finest looking and most attractive; have better action, are quicker stepping, have better feet and stand their work better than the Clydes, and bring a better price on the market. I would advise the farmers and breeders who are breeding horses to sell on the New York market for draft purposes, to breed from the French horses in preference to all others."—*Chicago Tribune*. The greatest importing and breeding establishment in the world is that of M. W. Dunham, at Wayne, Ill., who has imported and bred nearly 1,000 Percheron-Normans, and now has some 400 on hand.

ORCHARD GRASS FOR PIGS.—Orchard grass, says F. D. Curtis, of New York State, writing to the *Tribune*, is a most valuable grass for permanent pig pasture on account of its starting so early in spring and its continuous growth during the entire season. It is the least affected by drouth of any grass with which I am acquainted, and it will also furnish the largest amount of fresh seed. Clover and timothy will furnish a greater bulk of hay, but neither of them, and especially timothy, which is very poor, will furnish anything like the amount of aftergrowth. Orchard grass on rich land can be mown three times in one year, and, of course, when used for pasture there is the same vigorous growth. I have known it to furnish a good fresh bite three days after being cut close to the ground, hence I am satisfied that it is the superior of any other grass for permanent pasture. It will not run out like clover and timothy, as its long fibrous roots take a rank and deep hold of the ground, uniting at the top in a tussock or crown from which numberless blades of grass grow.

(Continued on page 128.)

The ROYAL CITY REAPER.



The Most Perfect Self-Rake Reaper in the Market.

IS STRONGLY BUILT, DURABLE, SIMPLE IN CONSTRUCTION AND OF LIGHT DRAUGHT.

It cuts clean, lays a neat sheaf, and is the best Machine for picking up tangled grain. Rough land no obstacle.

THOS. GOWDY & CO.,

ALSO MANUFACTURE

Mowers, Horse Hay Rakes, Gang Plows, Chilled and Steel Mould Board Plows, Fanning Mills, Turnip Seed Drills, Lawn Mowers, Etc., Etc.

SEND FOR ILLUSTRATED CATALOGUE. Address

THOS. GOWDY & CO., - GUELPH, ONT.

206-tf

WAGONS! WAGONS! GRAPE VINES.



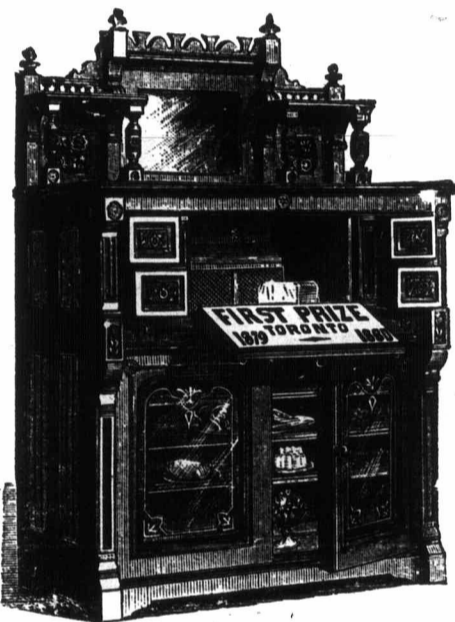
Procure the Best.

The PLUMMER WAGON has had a reputation for the past 40 YEARS as being unsurpassed. The greatest care is taken in procuring the best wood, best iron, and the best workmanship. Purchase no other until you have examined the Plummer Wagon. Every Wagon guaranteed. Send for Circulars. parts of Wagons supplied either wholesale or retail.

An inspection of the Works and Material respectfully invited. Address,

THE PLUMMER MANUFACTURING CO.,
LONDON, ONTARIO,
CANADA.

JOHN PLUMMER, President; JOHN LABATT, Vice-President. G. C. JOLLEY, Secretary



FARMERS and OTHERS

Climax Refrigerator

FROM

BRYCE BROS

Which Got all the First Prizes at the Exhibitions of 1882.

WILL KEEP MEAT FOR ONE MONTH!
YOU WILL SAVE THE PRICE IN ONE SEASON

Send for testimonials, &c., to
BRYCE BROS.,
121 Esplanade St.,
TORONTO, ONT.

PRIZE MEDAL SEEDS!

MCBROOM'S

Illustrated Seed Catalogue and Amateur's Guide for 1883,

Containing 70 pages of about one thousand varieties of Vegetable, Flower and Field Seeds, and a vast fund of practical information regarding time of planting, mode of treatment and cultivation of the soil, etc., also two colored plates of my new Potatoes and Hansell Raspberry, which I offer this season for the first time. The Catalogue, with colored plates, would be cheap at 50 cents, but will be sent gratis and post-paid to all requiring seeds. My Seeds are designated **PRIZE MEDAL SEEDS**. As the BRONZE MEDAL and Diploma at the Great International Australian Exhibition of 1877 was awarded to my house; also the following awards: Special Prize Provincial Exhibition, London, 1877, and highly commended, 1881. Highly commended Western Fair, St. Thomas, 1882. Diploma at Central Fair, Guelph, 1882. Highly commended with recommendation for Diploma Western Fair, 1882.

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

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

SARNIA AGRICULTURAL IMPLEMENT MFG Co
(Limited.)

MANUFACTURERS OF

Reapers, Mowers, Binders and Threshers

See the **DOMINION SEPARATOR** before you purchase. The easiest running, simplest and most durable machine in the market.

GEO. A. ROSS,
General Agent for the Northern Route,
GODERICH, P. O., ONT.



ONTARIO Agricultural College!

THE SPRING TERM will COMMENCE on the 16th April. Examinations for admission of new students on 17th April. For circulars giving full information apply to
JAMES MILLS, President.
Guelph, March 21, 1883.

GRAPE VINES.

Nursery Established 25 Years. Delaware and Lady Vines at special low rates by the 100 or 1000. By mail, 5 of either, for \$1.00, or 6 of each for \$2.00. Also our 100 varieties, best, new and old sorts, including Concord, Hartford, Ives, Iona, Early Victor, Pockington, Prentiss, Jefferson, Vergeletes, &c., &c. Also other small fruits. Splendid Stock. Prices low. Catalogues Free.
GEO. W. CAMPBELL, Delaware, Ohio.

Intercolonial Railway.

The Great Canadian Route to and from the Ocean.

For Speed, Comfort & Safety is Unsurpassed.

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

Good Dining Rooms at Convenient Distances.

No Custom House Examination.

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

Importers and Exporters will find it advantageous to use this route, as it is the quickest in point of time, and the rates are as low as by any other. Through freight is forwarded by FAST SPECIAL TRAINS, and the experience of the last two years has proved the Intercolonial route to be the quickest for European freight to and from all points in Canada and the Western States. Through Express trains run as follows:

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

GOING WEST.
Leave Halifax..... 2:45 p. m.
St. John, N. B..... 7:21 " "
Arrive Quebec..... 8:20 " next day.
Montreal..... 6:00 a. m. day after
Toronto..... 10:52 p. m. day after
The Pullman cars which leave Montreal on Monday, Wednesday and Friday, run through to Halifax without change, and those which leave Montreal on Tuesday, Thursday and Saturday run through to St. John, N. B., without change.

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

E. DE LAHOQUE
Ticket Agent, No. 3 Masonic Temple, London.
R. B. MOODIE,
Western Freight and Passenger Agent, 93 Rossin House Block, York St., Toronto.
GEO. TAYLOR,
General Freight Agent, Moncton, N. B.
A. S. BUSBY,
Gen'l Passenger and Ticket Agent, Moncton, N. B.
D. POTTINGER,
Chief Superintendent, Moncton, N. B.
Railway Office, Moncton, N. B., 28th November, 1882.

PAT. CHANNEL CAN CREAMERY.

DEEP SETTING WITHOUT ICE!
PERFECT REFRIGERATOR INCLUDED!

Suited for large or small Dairies, Creameries, or gathering cream. Special discount on large orders. One creamery at wholesale where I have no agents. Send for Circular. Agents wanted.
WM. E. LINCOLN, LONDON, ONT.

AGRICULTURAL SAVINGS & LOAN CO'Y.

Incorporated by Act of Parliament.
OFFICES—Cor. DUNDAS and TALBOT STS
LONDON, ONTARIO.

Capital..... \$1,000,000
Subscribed do..... 600,000
Paid Up..... 410,700

Money loaned on the security of Real Estate at Lowest rates.

MORTGAGES PURCHASED.

SAVINGS BANK BRANCH.

Deposits of \$1 and upwards received. Interest allowed at from 5 to 6 per cent. per annum.
da-12 **JOHN A. ROE, Manager.**

J. A. SIMMERS'

Cultivators' Guide and Priced Catalogue of **RELIABLE SEEDS**

contains the largest variety of Field, Garden and Flower Seeds.

N. B.—Now ready and mailed free to intending purchasers.
J. A. SIMMERS,
206-c 147 King St. E., Toronto, Ont.

Ontario Veterinary College

TEMPERANCE STREET, TORONTO.

The most successful Veterinary Institution in America. All experienced Teachers. Fees, Fifty Dollars per Session. Session 1882-3 begins Oct. 25th. Apply to the Principal, PROF. SMITH, V. S., Edin., TORONTO, CANADA. 201-1

CHANCE of the SEASON!

2 FARMS AT REDUCED PRICES. ON EASY TERMS.

Seventy-five acres in Bayham Township, close to village of Strathfordville; 65 acres cultivated; soil sandy loam; frame house, barn, orchard, etc. One hundred acres in Rayham, half mile from Griffin's Corners; Post Office, good frame house, barn, sheds, etc.

Either of these farms will be sold with a small payment down and the balance at 6% interest. Discount off for cash.

Write at once for particulars to
M. J. KENT,
206-147 439 Richmond Street, LONDON, ONT.

FOR SALE.

Jerseys & Ayrshires.

First Prize Jersey Bull, 3 years-old, nearly solid, Brown and Grey. Six High Grade Jersey Females, three with calf. Also

YOUNG AYRSHIRES.

male and female, from imported and prize stock

WM. RODDEN,
207-c FLANTAGENET, ONT.

MATTHEW'S SEED DRILL.

THE STANDARD OF AMERICA.

Admitted by leading Seedsmen and Market Gardeners everywhere to be the most perfect and reliable drill in use. Send for circular. Manufactured only by

EVERETT & SMALL,
BOSTON, MASS., U. S. A.

Or **JOHN A. DRUCE & CO.,**
206-c HAMILTON, CANADA, Agents.

FARM & GARDEN SEEDS FOR CANADA.

SUTTON & SONS

ROYAL SEED ESTABLISHMENT, ENGLAND,

SEEDSMEN TO

- Her Majesty the Queen.
- H. R. H. Prince of Wales.
- H. R. H. Princess Louise (Marchioness of Lorne).
- H. I. M. the Emperor of Austria.
- H. I. M. the Emperor of Germany.
- H. M. the King of Portugal.
- H. M. the King of Denmark.
- H. M. the King of Bavaria.
- H. H. Prince Halim Pacha, of Egypt.
- H. H. Prince Duleep Singh.
- Her Majesty's Government Works at Portsea, Gravesend, Portland, &c., &c., &c.
- Agent—J. W. DOW, Kingston, Kent Co., N. B. P. S.—Send for Catalogues. 203-1

STOCK NOTES.

(Continued from page 126.)

Curry horses frequently in spring to aid in removing their old coat. A small quantity of oil meal added to their feed will also greatly assist in its removal. Discontinue this when the working season begins.

HORSE IMPROVEMENT ASSOCIATION.—At a convention of horsemen held in Toronto, on the 6th of March, 1883, an Association for the better protection of those engaged in the stud horse business was formed. One of the rules of the Association requires that all members do collect at the time of service, either in cash or by note, one-half of the fee charged and balance on proof of mare being in foal.

Success in raising pigs depends upon feeding liberally till the pigs are three or four months old. Let them have the run of a grass or clover pasture, and after the harvest they will do well on the wheat stubble. The cost of raising in this way is very little. In the winter they will need richer food. They should have warm quarters with plenty of warm straw.

John Haggarty, an Irish cattle jobber, who introduced the 20 foot-and-mouth infected bullocks into Scotland, which spread the present run of the disease in that country, was before an Edinburgh Magistrate this week and fined \$150 for the offence. Under a strict enforcement of the law his fine would have been \$1,500, but pleading and showing that the cattle showed no signs of the disease at the time of purchase, he was let off for the sum named above.

Nursing ewes should be supplied with nutritious food suited to the breed. Merinos may have corn given them without injury. Heavier bodied sheep will do better on mixed food. A good feed is made of corn and oats or rye and bran in equal quantities, ground together and mixed with half the quantity of linseed oil meal. One pound of this a day, with a few cut roots or potatoes, will help both mother and lamb.

M. Regnard, a French savant, has been lately trying the effect of "blood diet" on lambs. Three lambs, which for some unexplained cause, had been abandoned by their mothers, were fed on "powdered blood" with the most gratifying results. The lambs increased in size in the most marvellous fashion, and attained unusual proportions for their age. The coats of wool also became double in thickness. Encouraged by his success with the lambs, M. Regnard is now feeding some calves on blood.

PROPER FOOD FOR A SOW.—It is an absolute necessity that all the food that is provided for a sow whilst suckling should be fresh and sweet. Whatever may be selected for her food, it should be given fresh, and only in such quantities that can be readily partaken of. If allowed to go sour in the trough, or if old sour wash is mixed with it her milking powers are certain to be deteriorated, while the quality of the milk is much impaired; not only so, such food very frequently proves deleterious, and almost poisonous to the pigs.

The fatter a breeding sow is kept, the more liable she is to destroy her pigs by lying on them or eating them up. Sows left to run wild make good mothers, and will generally select a warm, dry place to farrow. It is for this reason that there is so much advantage in using full-blooded boars of improved breeds on large, coarse-boned native sows. The progeny secures the good qualities from its sire with a better constitution and more hardiness than it could get from a full-blood pedigree, going back through generations which have always had ample feed and little exercise.

YOUNG PIGS—When there are more young pigs than teats, it is wise to remove one altogether, and either rear it by hand or give it to some one else to rear, as, however plentiful the milk supply, the continuous quarrelling frequently eventuates in the drying up of one or two teats (this is quickly done when not drawn regularly); and, if not as bad as that, it nearly always causes there to be two or three half-starved little ones in the litter, which otherwise might have been all regular and well-grown. Whenever it can be readily arranged, it is well to have two or more sows coming in at the same time. Then, with ordinary quiet and docile animals, and a little management, the different litters may be regulated, so that the overplus of the one may help to fill up those that are less numerous.

(Continued on page 130.)

LUMBERS' BOTANICAL REMEDIES



Lumbers' SURE CURE FOR PILES
A Speedy and Permanent Cure for this Painful Malady.

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

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

Lumbers' CATARRH REMEDY
Nature's Remedial Agent for this stubborn Disease. Simple, Safe and Sure.

Lumbers' TONIC MIXTURE and Anti-Dyspeptic Purgative Pills
A Speedy and Permanent Cure for Dyspepsia or Indigestion, Sour Stomach, Loss of Appetite, Headache, Dizziness, and all those complaints peculiar to females.

Lumbers' PULMONARY POWDERS
For Obstinate Coughs, Wheezing, Tickling in the Throat, Pain and Tightness in the Chest, and Difficulty of Breathing. Very efficacious in Asthma, Bronchitis and Severe Inflammation of the Lungs.

Lumbers' Specific for the Kidneys
For the Gravel, Difficulty in Voiding Urine, attended with heat and Scalding, and all affections of the Kidneys. In Inflammation of the Kidneys it gives prompt relief. It will also be found a sovereign remedy in Whites or Fluor Albus, Gonorrhoea, &c.

Lumbers' KING of LINIMENTS and RHEUMATIC PILLS

For Rheumatism, Neuralgia, Spinal Irritation and Weakness, Lumbago, Sprains, Contraction of the Tendons, Ague in the Breast and Face, and all pains situated in any part of the body. The pills are a very valuable and successful remedy for Acute and Chronic Rheumatism, used in connection with the King of Liniments.

For Sale by all Principal Druggists

WM. LUMBERS, Sr.,
SOLE PROPRIETOR,
288 Carlton St., Toronto, Ont.
201-h

COTTON YARN.

WHITE, BLUE, RED AND ORANGE.—Warranted the very best quality. None genuine without our label. Also, BEAM WARPS for Woolen Mills.

Send for Circulars, &c. Address—
WM. PARKS & SON,
New Brunswick Cotton Mills,
St. John, N. B.

de-12



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



SILVER MEDAL

Thorley's Improved
**HORSE & CATTLE
FOOD**

was awarded this present season a

SILVER MEDAL
at the Industrial Exhibition, Toronto. The only medal ever awarded to any Food at the above Fair. Also a

DIPLOMA

at the Provincial Exhibition, Kingston, and at each of the Great Central Fairs at Hamilton and Guelph. The only Food ever awarded a Diploma at these Fairs. And also a

DIPLOMA

at the Western Fair, London.

For Sale by Dealers Every-
where.

PEARCE, WELD & Co.,
Agents for London.

ANUFACTORY—48 John Street South,
M203-1 HAMILTON, ONT.

FARMS FOR SALE

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

CHARLES E. BRIDGES,

Real Estate Agent.

Land office, 98 Dundas street west, London,
opposite to the City Hotel, for list of farms for sale.
176-1f

JOHN CAMPBELL,
KING STREET LONDON, ONT.

Manufacturer of
CARRIAGES, BUGGIES, CUTTERS,
SLEIGHS, &c.,

Modelled from the Newest Designs; which, for Elegance, Durability and Workmanship, cannot be surpassed in the Dominion. de-12

**CHOICE
LAND & WATER FOWLS**

OVER 20 VARIETIES

Black and Mott. Javas, Hm. Sebrights, Black Sumatras, Langshans, Leghorns, Spanish, Hamburgs, P. Rocks, Cochins, Brahmas, Houdans, W. C. B. and B. S. S. Polish, S. S. Bantams, Toulouse Geese, Rouen, Pekin and Cayuga Ducks.

Send stamp for my 16-page large illustrated and descriptive catalogue. Address
CHARLES GAMMERDINGER,
(Mention this paper.) 204-f Columbus, O., U. S.

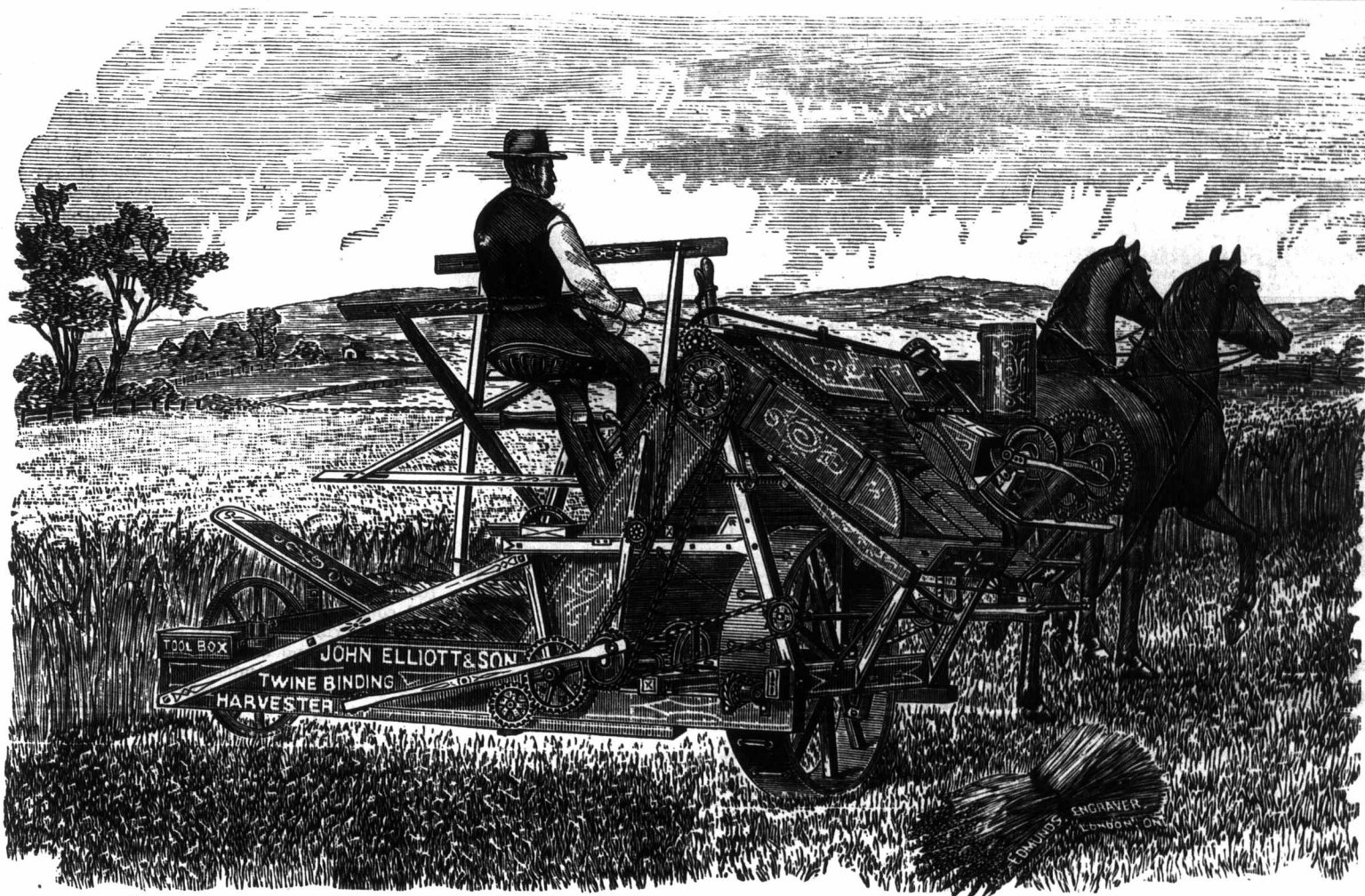
DR. W. E. WAUGH,

OFFICE The late Dr. Anderson's, Ridout Street,
LONDON, ONT. 195-1f

JOHN ELLIOTT & SON, PHOENIX AGRICULTURAL WORKS

LONDON, ONTARIO, CANADA.

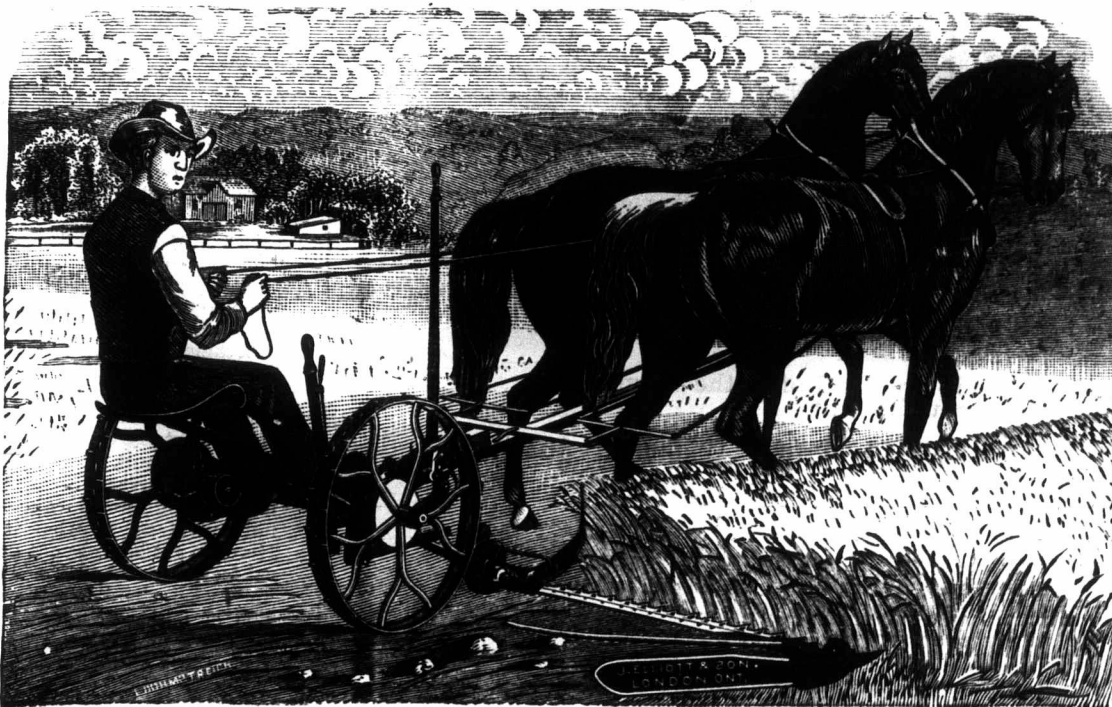
MANITOBA BRANCH, MARKET STREET, WINNIPEG.



The McCormick Self-Binders have been awarded the highest honors at every World's Fair from London, Eng., in 1851, to Paris, France, in 1878.

MANUFACTURERS OF

The McCormick Twine
 Binder, Warrior Mow-
 ers, Triumph Reapers,
 Meadow Lark (Com-
 bined or Single) Reap-
 ers and Mowers, Cham-
 pion Hay Rakes, &c.,
 &c., &c.



ALL
MACHINES

—ARE—

WARRANTED.

We have the only origi-
 nal McCormick Twine
 Binder Patterns in Can-
 ada, and are the only
 Canadian Manufactur-
 ers who made an Apple-
 by Twine Binder for the
 harvest of 1882.

Send for Circulars and
Price Lists.

1883—SPRING—1883
 Now is the time to prepare your orders for **NEW and RARE Fruit and Ornamental Trees, Evergreens, Roses, Vines, ETC.** Besides many Desirable Novelties: we offer the largest and most complete general Stock of Fruit and Ornamental Trees in the United States. Abridged Catalogue mailed free. Address: **ELLWANGER & BARRY, Mt. Hope Nurseries, Rochester, N. Y.**



HANSELL The Most Remarkable Raspberry ever Produced. Send for full account and a beautiful chromo of it. The finest stock in the U. S. of **SMALL FRUITS**, embracing all valuable varieties, also a superior stock of Fruit Trees. Lovett's Small Fruits are the best. Catalogue, brilliantly illustrated (colored plates), telling how to get and grow them, honest descriptions, fair prices, free. The most beautiful and useful Fruit Catalogue ever published. **J. T. LOVETT, Little Silver, N. J.,** Introducer of Outhbert Raspberry, & Manchester Strawberry.

D. M. FERRY & CO'S SEED ANNUAL FOR 1883. Will be mailed FREE to all applicants, and to customers of last year without ordering it. It contains about 175 pages, 600 illustrations, prices, accurate descriptions and valuable directions for planting 1500 varieties of Vegetable and Flower Seeds, Plants, Fruit Trees, etc. Invaluable to all, especially to Market Gardeners. Send for it! **D. M. FERRY & CO. DETROIT MICH.**

FIRST-CLASS
ENGRAVING
 DESIGNS SUPPLIED
WOOD
TORONTO ENGRAVING CO.
 100 KING ST. BRIDGE ST. & BEALE COR. JORDAN

SEEDS

MY ILLUSTRATED CATALOGUE FOR 1883 containing description and prices of the choicest kinds of **Field, Garden, and Flower Seeds** mailed free to all intending purchasers upon application. It is the handsomest one ever published in Canada, and invaluable to all who wish to buy **PURE FRESH SEEDS**. Special attention given to preparing **MIXED GRASSES for PERMANENT PASTURE**. Prices and full particulars will be found in Catalogue. **W. L. DENNIE, Feedsmen, TORONTO**

Peter Henderson & Co's
 COLLECTION OF
SEEDS AND PLANTS
 Embraces every desirable novelty of the season, fully described in their **MANUAL of EVERYTHING for the GARDEN** which for 1883, contains **PETER HENDERSON'S "Revised Instructions on Vegetable and Flower Culture,"** making it a condensed Gardening Book, having all the latest information known to the author of "Gardening for Profit." Mailed free on application. (Please state in what paper you saw this.)
Peter Henderson & Co.,
 35 & 37 Cortlandt St., New York.

YOUR NAME IN ELEGANT SCRIPT TYPE on 50 Beautiful Imported Chromo-Cards, 10c., 14 packs \$1., 30 pearl bev. Gilt Edged Cards with lapped corners, 15c. Agents' Large Album, containing all the Latest Styles of Imported, Bevel Edge and Satin Fringed Cards, with illustrated premium list and private terms. 10 Agents, 25c. **CARD MILLS** Northford, Ct.

STOCK NOTES.

(Continued from page 128.)
 The *Drovers' Journal* says: "Grub in the head" is said to be cured best by grub in the belly. It has been found that strong, vigorous sheep are able to resist the disease, while emaciated animals invariably succumb. Moral: Put the grub in the right place.

THE ENGLISH CART HORSE SHOW.—The society formed for the purpose of improving and registering the pedigrees of the Shire breed of cart horses, held its fourth annual exhibition in the Agricultural Hall, London, February 27th, and the three following days. Of the grand success attending the efforts of the society, one has only to point to the two hundred and fifty-one splendid stallions, mares, fillies, and geldings which were entered to compete for the £519 offered as prize money. No such collection of heavy horses has ever been seen by "the oldest inhabitant."

WHY DO ANIMALS NEED SALT?—Prof James E. Johnston answers this question. "Upwards of half the saline matter of the blood (57 per cent.) consists of common salt, and this is partly discharged every day through the skin and kidneys. The necessity of continued supplies of it to the healthy body becomes sufficiently obvious. The bile also contains soda (one of the ingredients of salt) as a special and indispensable constituent, and so do all the cartilages of the body. Stint the supply of salt, thereafter neither will the bile be able properly to assist digestion nor the cartilages to be built up again as fast as they naturally waste. It is better to place salt where stock can have free access to it than to give it occasionally in large quantities. They will help themselves to what they need if allowed to do so at pleasure, otherwise when they become salt-hungry they will take more than is wholesome."

Dairy Notes.

The next annual meeting of the Western Dairyman's Association will be held in the city of London, Ont., on the second Wednesday in February, 1884.

A company is being formed to undertake canning and preserving business, on an extensive scale, in Truro, N. S., and will start early in spring, making a specialty of condensed milk, in which branch they will have no competitors in the Dominion. Fruit and vegetable canning will be added, and a cheese factory will also be run in connection with the establishment.

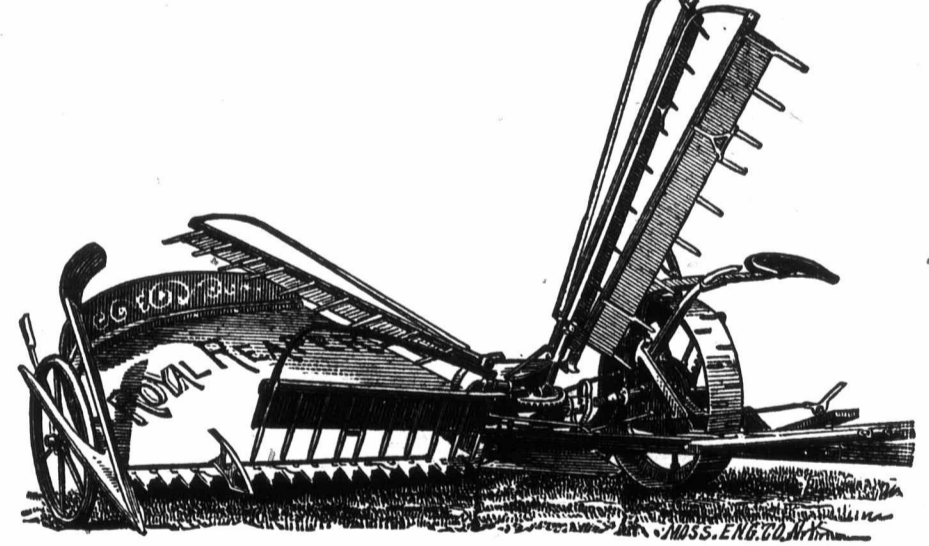
Dispatches from Washington state that reports of the Bureau of Statistics show a very marked decrease of exports of butter. Comparing the exports for the ten months ending on February 28, 1883, with those of the corresponding ten months of the previous year, it appears that the amount exported fell from nearly 16,000 pounds to about 7,500,000 pounds.

A remarkable statement against ensilage appears in *The Country Gentleman*, from a Connecticut correspondent who says he has "had practical experience in feeding it." It is not cheap, he maintains—"costs more than hay at \$30 per ton." As steady ration he "would as soon have hard cider;" has seen cows so drunk on it that they "could not stand." It "ruins animal vitality;" "scours cows most of the time," and "leaves the calves in such a state that they can not live on new milk after they are born."

Two German scientists have been experimenting in the matter of the influence of feed on the milk of ewes, with the following result: They fed a ewe upon 1 lb hay, 1 lb barley, and 2 lb roots a day for thirty days and she was milked three times a day when the milk became normal, which did not occur until 25 hours after lambing. The maximum yield was given about the ninth day, the dry matter, much at first, rapidly fell till the fifth day, when it became regular, the same being the case with the specific gravity. With allowance of food stated, the weight of the animal and the milk production remained constant. After the expiration of the thirty days the ewe was shorn, and then the quantity of milk fell from 962 grams to 733 grams—that is, it decreased about one-fourth; the addition, however, of linseed cake to the food brought the milk yield up to what it had been previously. Here we get brought out an interesting physiological fact, that when the ewe was called upon to grow wool, she did so at a sacrifice in the production of milk. Incidentally it is mentioned that the ewe's milk is remarkable for its percentage of dry matter, albuminoids, and fat.

ESTABLISHED 1843.

Royal Reaper & Royal Mower



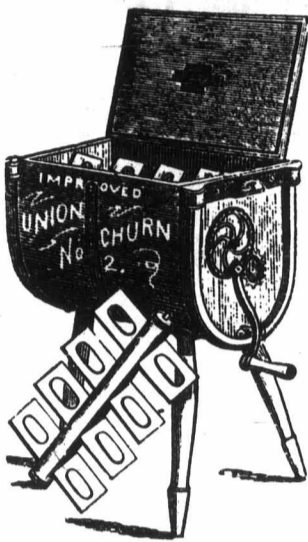
GREEN BROS & CO.,
 MANUFACTURERS, WATERFORD, ONT.

For the Harvest of 1883 we shall offer the Farming Community our
ROYAL-MOWER, with New Tilting Device (enclosed gear),
 4 ft. 3 in. Cut.
ROYAL REAPER (enclosed gear) 5 ft. cut.
 Ours are the only Genuine Royal Machines made, as we have the only and exclusive right to build and sell these Machines throughout the world.

SEND FOR CIRCULARS.
 Agencies throughout Ontario, Quebec, Prince Edward Island, New Brunswick, Nova Scotia, Manitoba and the Northwest.

— THE —
UNION CHURN

Admitted to be the Best Churn in the World!



Took the Following 1st Prizes Against all Competitors:

Hamilton	1876 and 1881
London and Quebec	1877
Sydney, New South Wales	1877
Paris, France	1878
Toronto	1878, 1879 and 1880

Made in Four Sizes:

No. 1	\$ 8 00 each, net cash
No. 2	8 50 " "
No. 3	9 00 " "
No. 4	10 00 " "

When we have no agents we will forward to your nearest railway station for above prices.

MANUFACTURED ONLY BY
C. T. BRANDON & CO., TORONTO,
Manufacturers of All Kinds of Wooden Goods.
207-c

WELL AUGERS
— AND —
DRILLS!

ARTESIAN WELLS! For House, Stock Ranch, Small Water Works, IRRIGATION, or deep and common Wells in Earth or Rock. **OUR OLD RELIABLE RUST WELL AUGER** will find Water at every trial.

PRICE OF EARTH TOOLS:

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

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

EAGLE MACHINE IS THE CHAMPION OF THE WORLD

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

PRICE OF DRILL TOOLS:

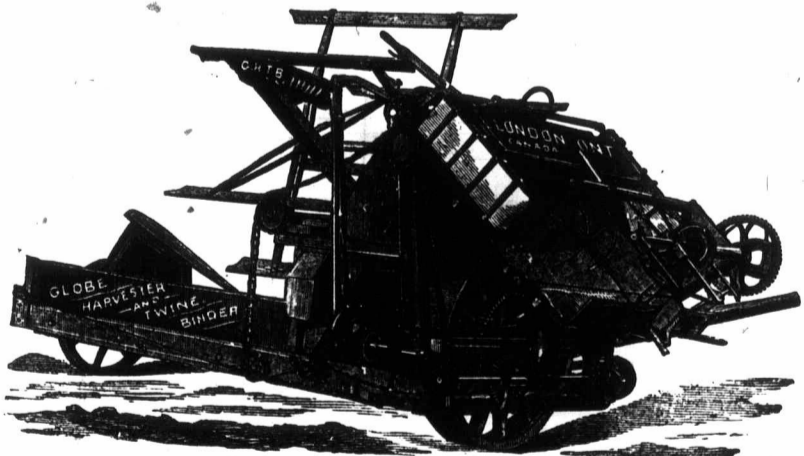
Best Eagle Machine, with 500 lb. drill, 2 six inch Z bits, Horse Power, and 200 ft. rope with man to set up and test, \$450 00. Same Rig, with 4 H. P., Engine and Boiler, Smoke Stack and Belt	\$685 00
Same Rig, without Engine or Power	400 00

Several of these Machines are now in every State.

JOHN ELLIOTT, Lipan, Hood County, Texas, writes me: "I have set up 4 of your Eagle Machines. All give good satisfaction." R. S. SEATON, Lampass, Tex., writes me: "My Eagle Machine is doing good work, as is also the one you sold Mr. MARTIN of this place. I want another in the Spring." We have low freight contract, and prompt delivery guaranteed. Please order direct, or send for descriptive catalogue.
205-1

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

THE GLOBE HARVESTER and TWINE BINDER.



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

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

206-1

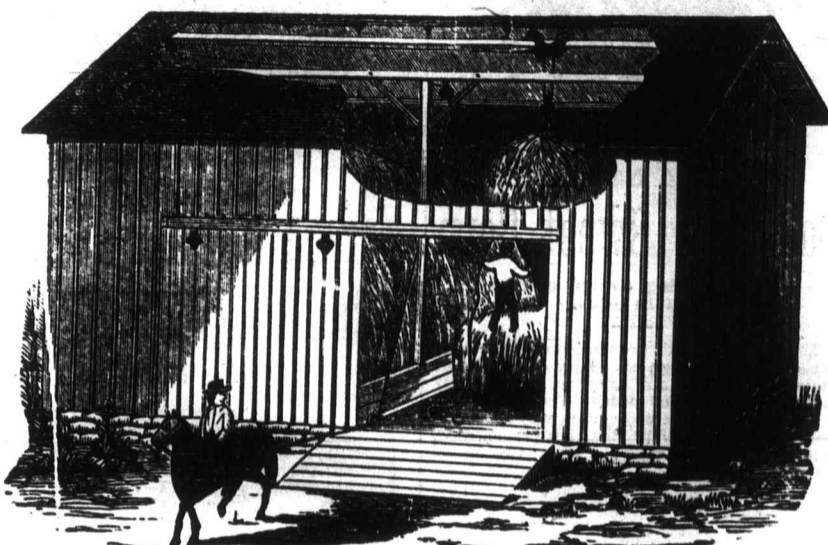
STRAWBERRY PLANTS and all other SMALL FRUITS **GRAPE VINES**

SEND for beautiful, Descriptive Illustrated Free Catalogue.

T. C. ROBINSON,
OWEN SOUND, ONT.

206-c

E. L. Church's Hay Elevator and Carrier!



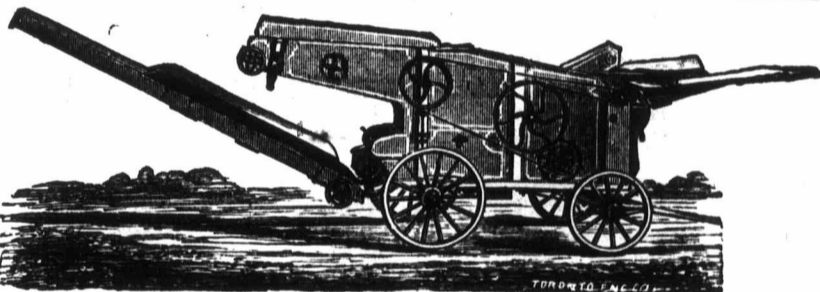
THE VERY BEST IN THE MARKET.

There are thousands of these Elevators and Forks now in use in Canada, everywhere giving the very best satisfaction. Sent on Trial to Responsible Farmers.

Manufactured by **WORTMAN & WARD, London, Ontario.**

208-d

COR. YORK AND WILLIAM STREETS.



To Farmers and Threshers of the Dominion of Canada:

I MAKE

THRESHERS

of different sizes to suit large or small farmers, and large machines for Threshers.

EACH AND EVERY MACHINE FULLY GUARANTEED.

Fast Threshers, Run Light, Perfect Separation No Waste and Good Cleaners.

The Best Style of Machine made in the World.

Send for Circular and particulars before next season is on, that order may be placed in good time.

JAS. SHARMAN.

STRATFORD, ONT.

Mention "Farmer's Advocate."

206-F



MAMMOTH Southern Sweet Corn

For Feeding Green, or to put in Silos.

The demand for this Corn last season exceeded the supply all through the dairy section in the States, and farmers and dairymen have already sent in their orders for sowing the coming season. It is a beautiful large white grain, very sweet and tender, and for green feed for stock has no equal. Price per bush., \$2; bags 25c. each; two bushel lots \$1.75 per bush.

SEED POTATOES.

White Star \$2 per peck; American Magnum Bonum \$1 per peck; Pride of America \$1 per peck; Clark's No. 1 (the earliest potato in cultivation) 50c. per peck; Mammoth Pearl 75c. per peck; Susy, the handsomest potatoes grown, 50c. per peck.

ROOT SEEDS.

Every root grower should give the following varieties a trial:

P. W. & Co's Improved Prize Swede, 50c. per lb., post-paid.
P. W. & Co's Mammoth Long Red Mangel, 50c. per lb., post-paid.
P. W. & Co's Yellow Flesh Tankard Mangel, the handsomest Mangel grown, 50c. per lb., post-paid.

Beck's Champion Yellow Globe, 50c. per lb., post-paid.

The choicest samples of Wheat, Barley, Oats, Peas, &c., procurable. Prices on application. GRASSES for permanent pastures or meadows, separate or mixed. Prices on application.

Twenty-five packets of choice annual flower seeds and a RUSSIAN MULBERRY, mailed, post-paid, on receipt of \$1.

Twenty packets of assorted Garden Seeds and a RUSSIAN MULBERRY, mailed, post-paid, on receipt of \$1.

Catalogues free to all on application. Address

PEARCE, WELD & CO., SEED MERCHANTS, 208-tf LONDON, ONT.

LAMB'S SUPERPHOSPHATE OF LIME

- AND -

FINE BONE DUST.

Send for Price List.

PETER R. LAMB & Co.,

Fertilizer Manufacturer.

206-c TORONTO, ONT.

Superphosphate. \$28 per ton. Free on cars.
Cotton Seed Meal. \$30 per ton. 100lb. bag \$2.
Union Seed. Red Wethersfield & Yellow Danvers \$1.50 per lb. Free by mail.
PEOPLE'S PACKET OF FLOWER SEEDS. Containing 25 beautiful varieties. Excellent selection. Free by mail, \$1.
ILLUSTRATED SEED CATALOGUE FOR 1883. Free to all who apply
206-c W. H. MARCOON, SEED MERCHANT, QUELPH.



—THE—
ENGINE
FOR THE
NORTH-WEST TRADE

Is Made to Burn
EITHER STRAW OR WOOD

J. & J. HARROWER

are my Agents in
Winnipeg, Manitoba,

—AND—
W. H. VAN TASSEL
in Belleville, Ont.

Intending purchasers should not fail to see them.

GEORGE WHITE, Forest City Machine Works,
LONDON, ONTARIO, CANADA.

207-1

MERCHANTS' UNION BARBED FENCE COMPANY

494 King-St., LONDON, ONT.



A Fence which will Turn Anything, and is not Dangerous to Man or Beast.
FLAT STEEL STRIP BARBED FENCE.

It is only manufactured by the Merchants' Union Barb Fence Co., of London, who hold the patent for the Dominion, and are outside of any or all combinations. The latest improved and best in the market. Send for Circulars and Price List. 203-tf

"OAKLANDS" HERD OF JERSEYS.

(REGISTERED IN THE AMERICAN JERSEY CATTLE CLUB.)

RECORD OF PRIZES

AT THE THREE GREAT FAIRS OF CANADA, 1882.

DOMINION GOLD HERD MEDAL, Provincial Exhibition, Kingston. First prize, SILVER HERD MEDAL, Canada's Great Fair, Toronto; FIRST HERD PRIZE, Great Central Fair, Hamilton, and 16 FIRST PRIZES, 8 SECONDS and 1 THIRD, and "2 SWEEPSTAKES" MEDALS in all, 30 prizes.

LE BREVE 5604. FIRST PRIZE 2-year-old bull, and SWEEPSTAKES SILVER MEDAL PRIZE "BULL of any age," at Hamilton. (Not exhibited at Toronto.) HEADED GOLD MEDAL HERD at Kingston, and FIRST PRIZE HERD at Hamilton.

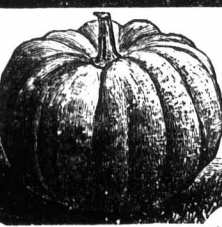
OAKLAND'S REX 6839 FIRST PRIZE 2-year-old bull at Toronto, at head of First-Prize Silver Medal Herd, Toronto. Second-Prize 2-year-old at Kingston. First-Prize 2-year-old at Hamilton. He is a double grandsen of Cash Boy, and is of the Albert-Pafsy-McLellan combination.

OAKLAND'S FAITH. Imp. "CHAMPION COW OF CANADA." Sweepstakes Silver Medal "cow of any age," Kingston. First prize cow with calf at Toronto. Special-prize cow with twin heifer calves, Toronto. Record, 3586 lbs. milk in May, June and July, 1882; daily average in June, 42 lbs; 15 lbs. 2 oz. butter in 7 days.

OAKLAND'S NORA 14880. First as yearling heifer, at Toronto, Kingston and Hamilton. The herd also embraces the following: **BERTHA MORGAN 4770** (not exhibited), 19 lbs. 3 oz., dam 18 lbs., 2nd dam 18 lbs., sister 16 lbs., daughter (Lydia Darrach) 16 lbs., in 7 days. **Bella of Glencairn 10222**, dam Patterson's Beauty (dam of Bertha Morgan), record 18 lbs., sire Fortunatus 1152 (sire of Rosebud of Allerton, 17 lbs) in 7 days. **Bella gave 16 quarts with first calf.** **Violet of Glencairn 10221**, sire Fortunatus 1152, dam Mollie Brown 7831 (full sister of Bertha Morgan), record at rate of 16 lbs. in 7 days. **Nancy of St. Lamberts 12964**, record 12 lbs. 13 oz. with first calf. **Victory 16379**, twice 3d at Royal Agricultural Show, Jersey; in Gold Medal Herd at Kingston; record 15 lbs. 2 oz. in 7 days. **Granddaughters of COOMASSIE** through her sons **GUY FAWKES** and **KHEDIVE**. **Daughters of FARMER'S GLORY**, SIGNAL 278, F. S., HERO 90, F. S., Victor 148, F. S. Inbred Rioters and others, tracing to Pilot (3), Niobe (99), Colonel-Europa 121, Major (75), Sea Gull (398), Lopez (313), Flora, Earl, Monarch, etc., etc.

All calves sold from this herd in the United States are delivered at Detroit or Buffalo free of all duty. No quarantine from Canada to the United States. Bull calves for sale.

VALANCEY E. FULLER,
Hamilton, Ont.



Free Seed for TRIAL.

Desiring every farmer (and nearly one hundred thousand now use them) to test the purity and choice quality of the seed I raise, I will send free a collection containing a trial package of each of the following 12 Varieties for the cost of postage and putting up viz., 12 cts. Early Red Globe, Round Danvers and Cracker Onion; Marblehead Early Corn; Danvers Carrot; Coconut Squash; Tailbys and Improved White Spine Cucumber; Sugar Pumpkin; Improved American Savoy, Tottiers and Premium Flat Dutch Cabbage. My large Seed Catalogue free to all who write for it. **James J. H. Gregory, Marblehead, Mass.**

GLOBE LIGHTNING ROD COMPANY,

94 King St., LONDON, - - ONTARIO.

A FULL STOCK ON HAND.

Orders from Dealers Solicited. Samples and Price List sent on application.

T. C. HEWITT,

193-tf MANAGER.

W. & F. P. CURRIE & Co.,

100 Grey Nun St., Montreal,

MANUFACTURERS OF

SOFA, CHAIR & BED SPRINGS

A LARGE STOCK ALWAYS ON HAND

IMPORTERS OF

Drain Pipes, Vent Linings, Flue Covers, Fire Bricks, Fire Clay, Portland Cement, Roman Cement, Water Lime, Plaster of Paris, Borax, Whiting, China Clay, &c.

193-1

Grand Trunk Railway OF CANADA.

TRANS-CONTINENTAL ROUT

OVER

1300 MILES UNDER ONE MANAGEMENT

-TO-

MANITOBA

AND THE

NORTH-WEST TERRITORIES!

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

THIS IS THE

LEGITIMATE ROUTE

TO THE

NORTH - WEST!

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

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

To Sportsmen and Excursionists

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

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

JAS. STEPHENSON, JOS. HICKSON,
190-1 Gen'l Pass'r Agent. Gen'l Manager