

882.

S

sehold

Farm

25 55

1 30

2 50

28

2 50

1 50

1 00

25

50

25

1 00

25

1 25

20

1 25

1 50

3 75

1 00

1 50

2 50

1 00

30

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

1 50

# The FARMER'S ADVOCATE

AND HOME MAGAZINE

VOL. XVII.

LONDON, ONT., FEBRUARY, 1882.

NO. 2.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

Founded 1866.

## THE FARMER'S ADVOCATE

—AND—

## HOME MAGAZINE.

WILLIAM WELB, Editor and Proprietor.

The Only Illustrated Agricultural Journal Published in the Dominion.

**TERMS OF SUBSCRIPTION:**  
 \$1.00 per year, in advance, postpaid; \$1.25 in arrears.  
 Single copies, 10 cents each.  
 Subscriptions can commence with any month.  
 When the subscription is for less than one year the paper is stopped at expiration, otherwise not unless ordered.  
 Remittances at the risk of the subscriber unless made by registered letter or money order.  
 Subscribers who desire to change their P. O. address will send both old and new address.  
 No notice can be taken of papers returned without name and P. O. address.

**ADVERTISING RATES:**  
 Twenty cents per line of nonpareil, with choice of position  
 Twenty-five cents per line; and Fifty cents per line for special notices in reading columns.  
 Advertisements must be acceptable in every respect.  
 Special contracts made for definite time and space.

**CONDENSED ADVERTISEMENTS.**  
 Farms wanted, for sale or to rent, under twenty words and not exceeding four lines, 50c. each insertion.  
 Live stock wanted or for sale, under twenty words and not exceeding four lines, 50c. each insertion.  
 Stock Breeders' Cards \$1.50 per line per year in advance.  
 Send for Advertising Circular. Address—  
 THE FARMER'S ADVOCATE, LONDON, ONT., CANADA.

### Our Prize Essay.

A prize of FIVE DOLLARS will be given for "WILL IT PAY TO SOW WITH CLOVER IN THE SPRING, TO BE PLOUGHED UNDER IN THE FALL." This essay must be in this office by the 15th March, and is intended to give and show practical results.

"YES OR NO."—We much regret to disappoint some who have won this lithograph. Our stock is completely exhausted, and our publishers are so busy that they cannot promise a further supply for several months. In the meantime we have selected "GATHERING FERNS," by John Lucas, Royal Academy of England, and "CROSSING THE STREAM," by George Earle, also of Royal Academy, England. These two crayons are exceedingly attractive and full of interest to every admirer of the beautiful. They are simple and very natural pictures of what they represent, of most excellent workmanship and void of all the loud and coarse tints or colors which so frequently mar the beauty of many otherwise deserving pictures. These crayons are printed on fine plate paper and cannot be procured, as far as we are aware, in Canada. All who chose "YES OR NO," and have not received it, if they send a postal card with their choice of one of above before the 20th inst., it will be sent them.

Bound volumes of the FARMER'S ADVOCATE for 1881 will be mailed, postage prepaid, to any address in Canada or the United States for \$1.50. Orders can now be sent in.

### Agricultural Societies.

A very large number of these Societies have sent us their yearly report, and in nearly every instance we are pleased to note an increased attendance and interest at the annual meeting. Many have sent us special points to note; but in most cases they are local, and have been well brought out at the meetings. At present we can only thank these Societies for their great and growing attachment to the FARMER'S ADVOCATE and are pleased to hear that the Societies who gave the FARMER'S ADVOCATE to members, added immensely to their roll of membership. Success to our agricultural societies, one and all. May all have good shows and fall fairs. All will bear in mind that each township agricultural society can give one copy of the ADVOCATE for 1882 as a special prize for whatever the Directors shall select, to be competed for at their annual show.

**GAME OF BOTANY.**—One of our subscribers who won this prize will find that the game was not accompanied with the rules; on receipt of the name and address the rules will be forwarded to make this interesting and valuable prize complete.

Back numbers of the ADVOCATE for past years can not be procured unbound.

Subscribers are requested to report promptly by postal card, with name and P. O. address, when their ADVOCATE fails to reach them in good time. Every subscriber should have his copy in his hands in every part of the Dominion, with few exceptions, by the 10th of each month.

Subscribers are desired to send the name and address of any farmer who should take the FARMER'S ADVOCATE, and a sample copy will be at once mailed free to him. As our subscription lists swell, so greater improvements can be made.

In our March No. we hope to give a cut and fuller particulars regarding the *Russian Mulberry*, some account of which was given in a former issue. Our subscribers will do well to give this valuable fruit and ornamental tree, so highly spoken of in many localities, a trial this season, and for the purpose of doing this, a plant from 6 to 12 inches will be sent, postage paid, per mail to any old subscriber for each new subscriber he may send in, paid in advance for one year.

The Government, on 31st Jan., received a cable despatch from the Colonial Office, announcing that the Imperial Privy Council had removed the restrictions placed upon the importation of American breeding cattle into Canada. American breeding cattle will now be admitted upon the same terms as cattle imported from other infected countries, which are subject to a quarantine of ninety days. The quarantine stations for this purpose will be established at such principal points as will meet the requirements of traffic.

### Government Agricultural Expenditures.

Perhaps there is no better subject for shady politicians to harp upon than what great good has been done for farmers, and many are easily gulled by such a lot of real bosh as is often spoken or printed. Our observations lead us to the conclusion that when the public money is laid out or legislative enactments are made for the purpose of favoring some particular individual, locality or party, such expenditures invariably result in injury to the majority of the farmers and to the detriment of this Dominion. Many years ago a large sum of money was expended to establish a model garden in Toronto. A few favorites profited by the expenditure, but the farmers paid the bills and profited nothing, despite the laudations of the press and speakers. It was thrown up in disgust by all, and the good results that were to follow were never realized. Every person who really has the interest of farmers at heart and desires the real prosperity of the Dominion in preference to individual or party interests, would do well to examine into every expenditure and see what its real object is. The complete failures of the Government Farms in Quebec are models of incredible farces, and are mere suckers on the public exchequer.

Wherever any great good has been done it can always be traced to individual results. Public expenditures are too often apt to be used to check rather than foster private enterprises, and sometimes smother them. The causes of the alterations in the Election Act, for the election of or rather the retaining some of the old Board in office, we looked on as the cause of the disruption of the Agricultural and Arts Association. The object was to keep a few in office and in power; and that few attempted to serve their own ends in doing this. Thousands of our most substantial and leading farmers have gradually become disgusted. The grant of money to establish the Ontario Farmer is another instance. That journal is long now dead. The fostering of many other schemes might be cited. Agriculture can look after itself if the Legislature will not enact laws to injure it. To legislate against the plain township farmers, and the taxing of them to support speculators, is not apt to result beneficially. The majority of farmers want fair play and nothing more. Fair play would have given Kingston the Provincial Exhibition this year. Fair play would not vote for immense sums to be expended against beneficial private enterprises. Fair play would not have caused such a loss to the farmers by the vacillating management of the Herd Book. Fair play would not support the centralizing of the Government grant for the benefit of a few speculators or adventurers. Fair play would not allow the cities the power to overcharge farmers, neither would it ask that citizens should not be repaid for accommodation furnished to farmers. Hasty, hurried and undiscussed changes are apt to be injurious. Why has not the Model Farm been made self-sustaining ere this? If the Government do not expend the grant for agriculture, why not vote it for the Muskoka sufferers? Better do that than expend it in opposing farmers in their enterprises.

SALE

choice Farms.  
 ion, Corre-  
 ven, and on  
 plans of the  
 rs to see the  
 proximity to  
 with accege

ES,  
 State Agent,  
 est, London,  
 of farms for  
 176-4f

TS

for Patents,  
 etc., for the  
 land, France,  
 five years'

noticed in the  
 d splendid il-  
 r, shows the  
 ine, and has  
 MUNN & Co.,  
 ST. MICHAEL'S  
 book about  
 192-a



## English Letter No. 34.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, Jan. 4.

My first and most agreeable duty is to wish the FARMER'S ADVOCATE and all its readers a very happy and prosperous new year.

Our winter, so far, has been a singular contrast to the last one, and such as a Canadian could scarcely understand. To-day has been as mild and genial as an average day of May or September, and, so far, we have scarcely had a frost worthy of the name. The worst of our mild winters is that we generally equalize matters by having a very late and cold spring at the time when really mild weather would be of some value. Business in all branches is very quiet; but a better feeling pervades trade generally, and the hope and belief is general that, with the advent of spring, there will be a great and general revival in our industries. The attempt to get an equitable treaty of commerce with France still languishes, and fears are entertained that it will fall through. It will remain to be seen which country will be the loser.

We do not propose to confine the good things of the future to ourselves. A land company has been formed here in order to purchase land in Manitoba, and to promote settlements thereon. It is rather a big thing. His Grace the Duke of Manchester, and Mr. Robert Allan, of the well known Allan Line of steamers, figure in the list of directors. The fact that the applications for shares were five times in excess of the number for allotment, may be taken as indicating either vast faith in the undertaking, or a great superfluity of cash here. I leave your readers to decide which. I believe that the company's location, in the neighborhood of Brandon, Manitoba, will exceed a million acres. Another indication, and probably a more valuable one still, of the way in which the great Northwest is looking up, is the fact that the Hudson Bay Company's shares, which were quoted last January at £17, are now at £27 10s.

I hear that a number of your leading stock-raisers are bound for this country with purses well provided, and that they intend purchasing suitable stock on a more extended scale than hitherto. In my next I hope to be able to report upon some of their operations. The Christmas shows are now all over, and, though prices ruled comparatively low, it is the confident opinion of the knowing ones that the coming season will see a marked improvement in prices for all classes of live stock. Certainly our home stock of sheep is rapidly decreasing; the chances of successful competition from the Australian colonies are not considered at all brilliant, and it follows that those of your breeders should be proportionately good. With the increasing demand in the States, and the certainty of a good market here, I should say that your sheep farmers—I mean your farmers of good sheep—have a very nice time in store for them.

Mr. Dawson, of Brampton, Ont., has visited us with a small supply of turkeys and chickens, which were immediately sold out at good prices. Mr. Dawson seems to be thoroughly up to his business, and only brings over the best article. He also attends to the business here himself, and so avoids the heavy exactions of the agents and middle men. Mr. Dawson says that prices have ruled so high in Canada and the States that it almost pays as well to sell at home as to bring here, and the risk is, of course, less. He has, however, a good connection here, and, like a wise man, does his best to keep it.

A few volumes of 1880 still on hand, and can be obtained at \$1.50 per mail, postage prepaid.

## From the United States.

[FROM OUR WASHINGTON CORRESPONDENT.]

Jan'y 18th, 1882.

The National Convention of Agriculturists has been in session the past week at the library of the U. S. Agricultural Dept. in this city. Delegates were present from most of the States and Territories of this country, and a representative from Canada.

The essays read and topics discussed by practical agriculturists, horticulturists, orchardists and stock breeders, contained much valuable information upon the various subjects presented to the Convention. The interest manifested in the work of the Convention was not confined to the simple tiller of the soil. A number of Senators and representatives in Congress attended these meetings almost every day, and seemed to take an interest in the addresses and various expressions of opinion by the practical and educated men who constituted the Convention of Agriculturists.

Among the addresses delivered and essays read and afterwards discussed in the Convention were the following: "Animal Husbandry in the Central West," "Blood Horses," "Jersey Cattle," "Sheep," "Science of Developing and Perpetuating Milk Qualities," "The Better Organization of Agricultural Work," "National and International Crop Reports," "Inspection and Grading of Cereals," and "Improvement of the Cereals."

In this letter I shall confine myself to extracts from the address of A. E. Blount, President of the State Agricultural College and Farm of Colorado, on the "Improvement of the Cereals." He said that, at the present day, cereals under the common mode of cultivation yield only about  $\frac{1}{2}$  of the real capacity within the cereal belt of our country. Wheat, oats, corn, barley and rice constitute our cereals. Corn and oats are not particular where they are planted; they will grow and try and make something; they are really indigenous to every State. Wheat, barley, rye and rice are much more eccentric in their habits, preferring certain soils and climate to develop their essential properties. So far as their adaptation to soil and climate are concerned, as well as to the wants of man, corn heads the list. It possesses all the properties of the others, and more—it has an abundance of oil and the power to resist all its enemies. Wheat is full of eccentricities, made up of whims and freaks. In some sections it promises to make the farmer a millionaire; in the next these promises are all blasted by blasted heads and rusty blades. Every man can raise corn, but every man can not raise wheat. It is a fact we all recognize that half a crop is not made in the cultivation of the cereals the country over. Why? Every one can give a reason. I will give mine in a few practical remarks: Records and well authenticated reports show that, sown broadcast, 102 bushels of wheat have been produced per acre in Montana Territory; that 108 bushels have been raised by special culture by F. F. Hallet, of England; that 791 pounds were raised from one pound of seed; that 1,800 pounds were grown from one pound sown by myself, and that 576,840 grains or 47 pounds 7 ounces have been produced by division, resetting and cultivation by C. Miller, of Cambridge. Records also show that 206 bushels of shelled corn have been raised on one acre; that 64 oz. have been produced from one kernel; that 3 bushels and 9 pounds were raised on 100 stalks by myself, and that 63½ oz. were taken from one single stalk.

He thinks that it, with a little service and extra cultivation, the production of corn and wheat can be brought up to these figures, there is room for doubling the average yield by the proper care in the ordinary methods of cultivation. To do this

he offers the following suggestions: "Seed wheat as used now-a-days is hardly fit for chicken-feed, say nothing of using it for seed. It is degenerate, impure, imperfect, full of parasitic fungi, and simply ruinous to the farmer and to our health. Up to this date there are over 350 different varieties of spring and winter wheats in the United States. Among all those that have become standards are found typical and genuine grains, which any farmer with an eye to improvement and profit must see in his ripening crop. This genuine grain, which is always found in the largest stools—those that come up evenly together and ripen uniformly—he should select and pick *himself*, and sow on choice land, cultivate, harvest and put away under lock and key, to be again sown, cultivated and harvested *by himself*, that no meddling or mixing can take place through others. By following all these rules, and observing the natural laws that govern vegetable growth, wheat can be made to double the length of the head, increase the grain one hundred per cent., and its quality will be so greatly improved that we will hardly recognize it as being the same kind after three years improvement. To build up a wheat (if I may use the term) to a degree that will develop its full power is a work that almost any observing farmer can carry out."

He said further that while hundreds of English farmers condemned Hallet's Pedigree Wheat because they say that while he doubled the yield, the grain was proportionately coarser and the flour inferior, he for one did not believe that it is necessary to confine ourselves to trifling crops or trifling averages in yield in order to retain a fine quality. He thought from actual experiment that when any defects were developed by in-and-in breeding, they could in the hands of a skillful, intelligent farmer, be overcome by hybridizing. In this system of cross-breeding or hybridizing he alleged that while it is the best method to adapt wheat to any soil and climate, as well as to combine all the elements essential to success in the field and in the mill, so much tact and knowledge of vegetable physiology and the art of combining elements was required, that farmers did not succeed in breeding a good variety more than once in a thousand times. He offered some valuable suggestions on the method, etc., of cross-breeding, and also gave an interesting account of corn and its culture. These and other topics of equal interest and importance to the farmer and stock breeder, must be deferred for a future letter.

An official report here says that the U. S. Consul General at Shanghai, China, has sent to this country a quantity of the seeds of the Tallow-tree of China. The Tallow-tree, it is said, grows all over China, resembling the Aspen in shape and foliage. Its nuts grow in clusters and are gathered in November. When ripe the capsules divide and disclose about three kernels covered with pure, white, hard tallow. From 133 pounds of nuts is obtained from 40 to 50 pounds of tallow. If its propagation in this country succeeds, the animal tallow can be devoted exclusively to oleomargarine and old boots, while the vegetable tallow from the tree is used for better purposes. LOTUS.

## Australian Notes.

[From an Australian Correspondent.]

VICTORIA.—The wool sale on Oct. 26th, at Goldsbrough's rooms, was the largest ever held in the Colonies; 16,000 bales were catalogued and 10,000 were sold, representing £200,000. The American buyers competed strongly, securing several clips. Sir Samuel Wilson's 4th sheep sale at Cecildoune realized £9,300. Stud rams went up to 55 guineas, the majority realizing 20 to 35 guineas; stock ewes fetched 2 to 4 guineas; special flock ewes 3 to 14½ guineas; special ewes, dense flock, to 15½ guineas.



NEW SOUTH WALES.—A heavy hail storm passed over Nudgee, doing a great deal of damage. At Cooyal it was terrific, killing 300 sheep and totally destroying the wheat crops of the selectors.

SOUTH AUSTRALIA.—The crops continue finely promising, though a few more showers would do them a great deal of good. The yield is estimated at from 5 to 7 bushels per acre, which, from an area of 2,000,000 acres, will give an exportable surplus of over 200,000, which, at present prices, will represent a money value of over £2,000,000 sterling.

TASMANIA.—A curious fact in natural history is related of a cow owned by Mr. Thomas Massey, of Derwent Park. She had three calves at a birth, all of which are living and strong. They are marked exactly alike. The wet weather has come too late to altogether repair the effects of the long continued drought. The hay harvest is generally expected to be deficient, but for other produce there is a more satisfactory outlook.

### Increasing Popularity of Hornless Cattle.

(FROM OUR CHICAGO CORRESPONDENT.)

The rapidity with which hornless cattle have gained in favor on this continent cannot be but a matter of great surprise and source of gratification to their most ardent admirers and champions. Though the Polled-Angus and Galloway breeds are by no means new to Canadians, there are very few of their American brethren who have ever seen a herd of "doddies," and those as yet engaged in propagating all of the entire Polled breeds might easily be enumerated upon one's fingers, and leaving the thumbs out at that.

Two years ago there had been little or nothing heard of these truly meritorious beasts, but after a few records of their performances had been made public, and widely copied by the rural and metropolitan press, the people, with almost one accord, seemed to experience something of a why-didn't-it-occur-to-me-before feeling, though, of course, it is understood that a very large percentage of the most prominent and influential breeders were restrained from giving vent to their enthusiastic admiration of the Polls, for the very plausible reason that their interests were centered in breeds whose not the least conspicuous features were the weapons of offence and defence, with which nature equipped them in the beginning. Considering the fact that the hornless breeds received no support from the already well established breeders, but rather their opposition, as was natural, their progress has been most wonderful indeed.

The rehearsal of the many good qualities of the hornless blacks—they being the first to claim public attention, as the Polled Norfolks were not brought forward until more recently—aroused unwonted interest in them. Among the three most important considerations may be mentioned: (1) Their lack of horns, which at once suggested more quiet feeders and entirely removed the danger of breaking horns in transportation, causing intense pain, which poor beasts are often compelled to suffer for several days in succession; likewise ensuring whole hides, at least, so far as horn rents were concerned. (2) Their adaptability to our variable climate, by reason of their hardiness as a breed, and (3) the fact that in their native country they had proven to be second to no other breed as beef producers, while it has been already demonstrated that, if selected with care for the purpose, they are good also at the pail. These points, which were freely rehearsed in various forms, were sufficient to create a strong demand for them, which amounted to more than an ordinarily strong demand; it was almost a fever, which more conservative people prophesied would soon react, and

like many another "fanciful bubble," which gave as great promise of permanent success in the beginning, would suddenly collapse with greater force than it had sprung up, but, as yet, there are no signs of a halt in the revolution which the hornless breeds are surely destined to work in our cattle stock. Indeed, instead of an abatement, there is an increase in the good opinion which so many readily formed of them, merely from accounts of their usefulness, and the animals seem to grow in favor as they become better known.

In the general scramble—for no other word fully expresses it—for hornless breeding stock, a very gross error has been committed by not a few. It is this: Ever so many enthusiastic purchasers have bought animals of doubtful pedigree, and in many cases beasts which, if they had been possessed of horns, and were of a more familiar style of stock, would have been rejected on account of their ill breeding. Right in this connection it may not be out of place to suggest that a very common error into which breeders fall is that of having in view one point, and blindly working to the accomplishment of that, whether other and more important points are overlooked and sacrificed or not. So it was, frequently, in the case of Polled cattle buyers; they wanted hornless cattle and took many that had little or no other recommendation.

Such people, of course, will be the first to find fault with the breed, and will probably not consider the fact that they expected grade males to do the work of purely bred bulls.

About a year and a half ago there was a lot of hornless and mainly black cattle arrived at Chicago, which attracted a great deal of attention. They were well fattened, 1410 lb. two-year-old steers, and, though none of the buyers were willing to pay any very high price for them, they were bought and forwarded to New York, where they dressed the unusual amount of 62 lbs. per 100 lbs., and the carcasses were pronounced very superior by the slaughterers. These cattle were the result of mingling Polled-Angus, Shorthorn, and "Cherokee" or common Indian blood, the females being of the latter and the males of the former. These were bred in the State of Kansas, by a prominent New York merchant, Thomas R. Clark, who has been experimenting in this way, and who is endeavoring to establish a cross breed which he calls "Polled-Angus Durhams."

L. F. Ross, of Illinois, a noted breeder of Devon cattle, has an idea that he can produce an animal in every way equal, if not superior, to the Devon for beef and milk purposes, but hornless, by crossing Polled Norfolk bulls upon Devon heifers. He has also secured some grade Galloway heifers to breed from, by crossing a bull of the latter strain upon Shorthorn cows. So far he seems to have been airy successful, and he may be the founder of a valuable cross-breed. His object in using the Polled Norfolks in preference to the black breeds, is to retain the color of the Devons, which can be easily done, as the former, like the latter, are of almost a uniform red.

The color of the Polled-Scotch cattle has been objected to by a great many breeders, but pray, what's in the color of the hair? What a bullock has under his jacket is what interests the butcher, and not the color thereof.

Large importations of Polled-Scotch cattle have recently been made, and Canadians in many places have sold large numbers of these "coming" cattle to parties who have taken them as far west as Kansas and the Indian Territory. Of course we cannot and do not expect these cattle to step right in, as it were, and crowd out the other noble breeds in a hurry, for breeders are not willing to sacrifice the work of generations merely to gain

this one point, but, at the rate of the present crusade against horns, it is pretty safe to assume that at the end of the next decade Polled cattle will be as common as they are now uncommon.

### The Agriculture of Different Ages and Countries.

To enable me to give you some idea of the antiquity of husbandry I must carry you back to a very early period, and to a time when there was apparently much disinclination to work. I think I shall not be far wrong when I say a scantily populated, fertile country is generally distinguished for the rudeness of its cultivation and the comparative inferiority of its produce. It was the case in the first ages of mankind, and subsequently in all newly peopled countries. This, I think, may be taken as correct, for in this country we have ocular demonstration of it. Many of you are old enough to remember facts which will bear evidence of what I say. Then, as now, the rich, fertile, alluvial soil requiring no manure, and which produces the finest grasses, were the first spots fixed upon for location. Here grain and vegetables for the family, and food for the live stock could be procured with little or no labour, and until a good price could be obtained or a market established, there appeared to be little inducement to man to pour out the sweat of his brow, and he who generally preferred or indulged his sporting propensities, was satisfied with his well-filled pouch of game, and clothed himself in the skins of animals.

We have no, or very little, information of the country in which the soil was first cultivated, either before or immediately after the flood. The earliest authentic account of the state of agriculture immediately following the deluge would appear to be that which existed among the Egyptians and their bond men the Israelites, from the former of whom the Greeks appear to be descended. At a later period we have a colony starting from the Greeks—I speak of the Roman nation; from these latter other countries of Europe obtained their earliest marked improvement in all arts. The history of the progress of agriculture we will place under three sections or divisions. 1st. That of the Egyptians and other Eastern nations. 2nd. That of the Greeks. 3rd. That of the Romans. Every family of the Egyptians and primitive nations had its appointed districts for pasturage if they pursued a pastoral life; or its allotted enclosure if it was occupied by tilling the earth. There was no distinction in this respect between the monarch and his people; each had a certain space of land from which he and his family were to derive their subsistence. The Egyptians, as well as the Israelites, were flock-masters; the latter were particularly so, and as Joseph's brethren said to Pharaoh, "their trade was about cattle from their youth." When, therefore, they came into Egypt they desired the low-lying land of Goshen, as producing the most perennial of pasture. It is true that the same authority says, "Every shepherd is an abomination unto the Egyptians;" but this was because, about a century before the arrival of Joseph among them, a tribe of Cushite shepherds from Arabia had conquered their nation and held them in slavery; till after a sanguinary contest of thirty years they regained their liberty about twenty-seven years before Joseph was promoted by Pharaoh. That the Egyptians were flock-masters is certain from many parts of the scriptures; that when Pharaoh gave permission to the Israelites to dwell in Goshen, he added, as he spoke to Joseph, "and if thou knowest any men of activity among them, then make them rulers over my cattle." The attention and care necessary to be paid to their domestic animals were evidently well known and attended to; for when they proposed to settle in a land their first thought was to build sheepfolds for their cattle. They had stalls for their oxen and for all their beasts. Thus, King Hezekiah is said to have made stalls for all manner of beasts, and cotes for flocks; moreover he provides him possessions of flocks and herds in abundance; and that this abundance exceeded the possessions of the greatest of our modern flock, even those of Australia and the far west, we may readily acknowledge, when we read that "Mesha, King of Moab, was a sheep master, and rendered unto the King of Israel



100,000 lambs and 100,000 rams, with the wool."

They prepared the provender for their horses and asses of chaff or cut straw and barley. Our translation does not explicitly state this, but it is clear in the Hebrew original. They tied up calves and bullocks for the purpose of fattening them, and were acquainted with the arts of the dairy. "Surely the churning of milk," says Solomon, "bringeth forth butter." The chief vegetable products cultivated by these eastern nations, were wheat, barley, beans, lentils, rye, the olive and the vine.

The scanty notices which we have of their tillage gives us no reason to doubt that they were skillful husbandmen. Their name for tillage (obed) emphatically expresses their idea of it; for it literally means, *to serve the ground*. And that the care and attention necessary were well sustained, is evidenced by the fact that David, for his extensive estate, had an overseer for the storehouse in the fields; another over the tillage of the ground; a third over the vineyards; a fourth over the olive trees; two to superintend his herds; a seventh over his camels; an eighth to superintend his flocks; and a ninth to attend similarly to the asses. Of their plowing we know that they turned up the soil in ridges, similarly to our own practice; for the Hebrew name of a husbandman signifies a man who does so. That they plowed with two beasts of the same species attached abreast to the plow, that the yoke or collar was fastened to the neck of the animal, and that the plow in its mode of drawing the furrows, resembled our own.

Their sowing was broadcast, from a basket, and they gave the land a second superficial plowing to cover the seed. Harrowing was not practiced by them. Russell, in remarking upon the mode of cultivation now practiced near Aleppo, says "no harrow is used, but the ground is plowed a second time after it is sown, to cover the grain." The after cultivation apparently was not neglected. They had hoes or mattocks which they employed for extirpating injurious plants or weeds. When the corn, or grain, rather, was ripe, it was cut with either a sickle or a scythe, was bound into sheaves, and was immediately conveyed in carts either to the threshing floor or to the barn. They never formed it into stacks. Those passages in the Scriptures refer exclusively to the thraves or shocks, in which the sheaves are reared as they are cut. The threshing-floors, as they are at the present day, were evidently level plats of ground in the open air. They were so placed that the wind might, at the time of the operation, remove the chief part of the chaff. The instruments and modes of threshing were various. They are all mentioned in those two verses of the prophet: "Fitches are not threshed with a threshing instrument, neither is a cart-wheel turned upon the cummin; but fitches are beaten out with a staff, and the cummin with a rod. Bread corn is bruised because he will not ever be threshing it, nor break it with the wheel of his cart, nor bruise it with his horsemen." When the seed was threshed by horses, they were ridden by men; and when by cattle, although forbidden to be muzzled, yet they were evidently taught to perform the labor. The instrument was a kind of sledge made of thick boards, and furnished underneath with teeth of iron. To complete the dressing of the corn, it was passed through a sieve and thrown up against the wind by means of a shovel. The fan was, and still is, unknown to the eastern husbandmen, and when that word is employed in our translation of the scriptures, the original seems to intend either the wind or the shovel.

Of their knowledge of manures we know little. Wood was so scarce that they consumed the dung of their animals. Perhaps it was this deficiency of carbonaceous matters for their land that makes an attention to fallowing so strictly enjoined.

The landed estates were large, both of the kings and of some of their subjects, for we read that Uzziah, King of Judah, "had much, both in the low country and in the plains; husbandmen also, and vine-dressers in the mountains and in Carmel, for he loved husbandry."

#### THE AGRICULTURE OF THE GREEKS.

Agriculture was too important and too beneficial an art not to demand, and the Greeks and Romans were nations too polished and discerning not to afford it, a very plentiful series of presiding deities. They attributed to Ceres, as their progenitors, the Egyptians, did to Isis, the invention of the arts of tilling the soil. Ceres is said to have imparted these to Triptolemus of Eleusis, and to have sent him as her missionary around the world to teach mankind the best modes of plowing, sowing and reaping.

In gratitude for this, the Greeks, about 1356 years before the Christian era, established in honor of Ceres the Eleusinian Mysteries, by far the most celebrated and enduring of all their religious ceremonies; for they were not abolished at Rome until the close of the fourth century. Superstition was a prolific weakness, and consequently by degrees, every operation of agriculture, and every period of the growth of plants, obtained its presiding and tutelary deity. The goddess Terra was the guardian of the soil; Stercutius presided over manure; Volutia guarded the crops while evolving their leaves; Flora received the still more watchful duty of sheltering their blossoms. They passed to the guardianship of Lactantia when swelling with milky juices; Rubigo protected them from blight, and they successively became the care of Hostilina as they shot into ears; of Natura as they ripened, and of Tutelina when they were reaped. Such creations of Polytheism are fables, it is true; yet they most please by their elegance, and much more when we reflect that is the concurrent testimony of anterior nations, through thousands of years, that they detected and acknowledged a great First Cause.

Unlike the arts of luxury, Agriculture has rarely if ever been subject to any retrograde revolutions. Being an occupation necessary for the existence of mankind in any degree of comfort, it has always continued to receive their first attention; and no succeeding age has been more imperfect, but in general more expert, in the art than that which preceded it. The Greeks are not an exception to this rule, for their agriculture appears to have been much the same in the earliest brief notices we have of them as the husbandry of the nation of which they were an offshoot. The early Grecians, like most new nations, divided into but two classes—landed proprietors, and helots or slaves; and the estates of the former were little larger than were sufficient to supply their respective households with necessaries. There was, probably, not even a prince or leader of the Greeks who did not, like the father of Ulysses, assist with his own hands in the operations of the farm. Hesiod is the earliest writer who gives any detail of the Grecian agriculture. He appears to have been the contemporary of Homer, and in that case to have flourished about nine centuries before the Christian era. His practical statements, however, are very meagre. Xenophon died at the age of ninety, 359 years before the birth of our Saviour. The following narrative, if not otherwise specified, is taken from his *Æconomics*. In his time the landed proprietor no longer lived for his farm, but had a steward as a general superintendent, and numerous laborers; yet he always advises the master to attend to his own affairs. "My servant," he says, "lead my horse into the fields, and I walk thither for the sake of exercise in a purer air; and when arrived where my workmen are planting trees, tilling the ground, and the like, I observe how everything is performed, and study whether any of these operations may be improved." After his ride his servant took his horse and led him home, "taking with him," he adds, "to my house such things as are wanted; and I walk home, wash my hands, and dine of whatever is prepared for me, moderately. No man," he continues, "can be a farmer till he is taught by experience. Observation and instruction may do much, but practice teaches many particulars which no master would ever have thought to remark upon. Before we commence the cultivation of the soil," he very truly remarks, "we should notice what crops flourish best upon it, and we may even learn from the weeds it produces what it will best support. Fallowing or frequent plowing in spring or summer is of great advantage." And Hesiod advises the farmer always to be provided with a spare plow, that no accident may interrupt the operation. The same author directs the plowman to be very careful in his work. "Let him," he says, "attend to his employment, and trace the furrows carefully in straight lines, not looking around him, but having his mind intent upon what he is doing." Theophrastus evidently thought that the soil could not be plowed and stirred about too much, or unseasonably; for the object is to let the earth feel the cold of winter and the sun of summer, to invert the soil and render it free, light and clear of all weeds, so that it can most easily afford nourishment. Xenophon recommends green plants to be plowed in, and even crops to be raised for the purpose, for such, he says, "enrich the soil as much." He also describes the properties which render dung beneficial to vegetation, and he also dwells upon composts. Xenophon recommends the stubble at reaping time to be left long if the straw is abundant, "and this

if burned, will enrich the soil very much, or it may be cut and mixed with the dung. The time of sowing must be regulated by the season, and it is best to allow seed enough."

Weeds were, even then, carefully eradicated from amongst their crops, for besides the hindrance they are to the corn or other profitable plants, they keep the ground from receiving the benefit of a free exposure to the sun and air." Homer describes Laertes as hoeing when found by his son Ulysses. Water courses were made to drain away the wet, which is apt to do great damage to corn.

Homer describes the mode of threshing grain by the trampling of oxen, and to get the grain clear from the straw, Xenophon observes "the men who have the care of the work take care to shake up the straw as they see occasion, flinging into the way of the cattle's feet such corn as they observe to remain in the straw." From this author, and from Theophrastus, we can also make out that the Greeks separated the grain from the chaff by throwing it with a shovel against the wind. So far you have had an insight into the agriculture of the Greeks, and we next proceed to the last division, that of the Romans.

(To be Continued.)

#### On the Wing.

We took a drive into the Township of Westminster on the day of Mr. Frank Shore's sale of Shorthorns, Grades and Cotswolds. This sale had been well announced to the farmers of Canada, and a large and very valuable lot of stock was disposed of. The attendance was large, consisting of the leading stockmen and farmers of Middlesex, and a large number from different counties; in fact, there were some from Manitoba and Quebec, and persons from most of the counties in Ontario were to be seen.

This stock was all in a healthy and breeding condition. The sale was honorably conducted. Animals with pedigrees, that were eligible for entering in the new Herd Book, were sold as Shorthorns, and those that had been crossed for a number of years and had been entered or were eligible for entry in the old Herd Book, were sold as Grades, or what some term Scrubs or Mongrels. But what appeared remarkable to many was to see the Scrubs or Grades command higher figures than many of the animals that had long pedigrees. This showed that the practical farmer preferred a fine animal rather than the pedigree of the animal. Fair prices were realized, but no fancy prices were paid. Several animals sold at \$200 and \$300, and Cotswold sheep at \$50 and \$55 per head; the Cotswolds commanding these figures were imported.

Mr. Shore intends going to England during the spring or summer, with the object of importing the nucleus of a fresh herd.

We had accepted an invitation to attend an Agricultural Dinner got up by the members of the North Branch Agricultural Society of the County of Huron. The dinner took place at Goderich, the County Town of Huron. It was largely attended by the leading farmers of the county, and speeches were delivered touching on agricultural subjects; loyal toasts were drunk, and one of the pleasantest and perhaps most beneficial meetings was held that Goderich had witnessed for many a year. The members of the County Council were at the dinner; also many of the county officials.

The County of Huron is one of the largest counties in Ontario. It is divided into three agricultural divisions, each of which appears to have an honest, stimulating motive that works like a charm; that motive appears to be to excel in raising the best stock and the best crops, and making the best returns from the land. The land in the county is of excellent quality. We know of no county making more rapid strides in agricultural advancement than Huron, and in no part of this continent, that we have ever heard of, has the custom of having an annual agricultural dinner been so long established nor so beneficially main-



tained, as they are got up for agricultural purposes, party politics being left out. It has always been the endeavor of the directors of these gatherings to avoid party lines, and this has in a great measure been the cause of the continuation of this fine old social and beneficial custom.

While seated in the cars on our way to this dinner, we looked over one of the political papers and noticed that

AMERICAN CATTLE ARE TO BE AGAIN ADMITTED INTO CANADA

for breeding purposes. We should consider we were not doing our duty were we to pass by such a notice without remarks. We have for many years looked with fear and dread on the danger there exists in allowing the importation of stock from infected countries. We have known wealthy farmers ruined in a few months from infectious diseases spreading in their stock. Thousands of farmers have been thus ruined; millions and millions of pounds sterling have been swept away, and poor houses and almshouses have been populated by the once happy, independent tillers of the soil, by the spread of infectious diseases over which the farmers had no control. Our legislators ought to be posted in the full extent of damage that has been done. Canada is now the only country in the world where these deadly and ruinous diseases have not a foothold. Prevention is better than cure. The only way we can be safe is to prevent the importation, if not entirely check it; to double or quadruple our precautions. If there is one legislator in this Dominion who will honestly espouse the cause of the plain, practical, average farmer, and not allow himself to be led by any partizan or speculator, there exists an excellent opportunity for such a person to place himself in the good graces of every well-wisher of this Dominion, and to attain a higher position in the minds of Canadians than any mere politician is destined to attain. We have a greater confidence in the honor of Sir John A. Macdonald and Mr. Mowat than in some of their followers, who have no spirit or mind of their own except to grasp the filthy dollars, no matter what dirty work they do to secure it. What pressure may have been brought to bear to secure a better opportunity to spread disease again in Canada is hard to imagine. Surely the few speculators who have introduced diseases into Canada on more than one occasion have not had sufficient influence to bring about this dangerous change. The danger does not exist so much from practical farmers as from these speculators, some of whom patronise the old and dangerous system of shipping cattle from one port to another to sell at fabulous prices, in a few months to be re-shipped, sold again, or pretended to be. At one of these sales held in Toronto, \$15,000 was said to have been paid for an animal, and to our knowledge the bidder could not pay a \$5 debt. As for the quarantine, if not attended to better than the Government officials have done in other cases when called to examine infected stock, we would not give a button for such inspection. It is not our desire to throw any unnecessary barrier in the way of trade with our enterprising neighbors, but to encourage a proper reciprocal feeling. It is our opinion that if the Americans had their country as free from contagious diseases as Canada is, they would use every means in their power to keep their country free from danger. There exists no necessity for us to import breeding cattle from the States; in fact it is hardly ever done except by speculators who send stock over to sell, or to lead sales and wish it back in Canada again. Americans purchase thousands of cattle and sheep from us because we have the best. This very business of supplying Americans with breeding

animals would be encouraged rather than restricted by prohibiting the importation from their country and doubling the strictness and time of our quarantine regulations. They require healthy animals to breed from, and do not want to endanger their herds by procuring animals from localities where contagious diseases are known to exist. Animals that have been imported from England are in reality of more value to American breeders when they have passed through our quarantine, and have been kept a few months in Canada, because the danger is then lessened of importing diseases from Europe. But we do not see the propriety of making Canada a hospital for the benefit of a few speculators, to the imminent peril of ruining thousands of our small farmers. In fact, we now have so many large herds and flocks of cattle, of such high merit, that for beef purposes alone we are not only at the present time equal to, but superior in stock, to the average European or English and Scotch farmers in their native countries. If we could keep up to our present standard, and we can easily do so, we want no fostering care of Government, except to prevent contagious diseases from again appearing in Canada.

We have imported dangerous and contagious diseases, both from the United States and England, but fortunately they have died out. The next time we may not be so fortunate. Canadian farmers have enemies, and many of them tried to establish the falsehood that the diseased animals sent to England were Canadian, and that our stock is as badly infected as the American stock is. We trust that some friend of the real plain farmer will use his influence in the Legislative halls of Canada and prevent the possibility of Canada again being visited with the foot and mouth disease, with hog cholera, with trichinosis, or pleuro-pneumonia.

If we keep diseases from our stock we shall have a demand for it from all parts of the world. We now have sufficient in our country to stock our farms in a few years, if we only keep the best.

New York correspondence English Live Stock Journal, of Jan. 13th: Pleuro-pneumonia still exists in the neighborhood of New York city, New Jersey, Pennsylvania, Delaware and Maryland, while swine plague, glanders and chicken cholera are found everywhere. A number of investigations are now in progress, and reports will be submitted when complete. The principal ones are swine-plague and cholera, Spanish fever and anthrax or charbon.

#### Specialties in Vegetables for 1882.

We have selected the following from the catalogues of leading and reliable seedsmen, and present them for the consideration of our readers. The descriptions and endorsements are, of course, made by the seedsmen referred to.

The Ne Plus Ultra bean is distinct in seed and growth from other varieties, dwarf and compact in habit, delicate in flavor, and very early; also extremely productive. The Soja Bean is said to be perfectly hardy and valuable for feeding, and has been pronounced by agricultural chemists to be the richest of all human food.

In cabbages we have to notice the Early Bleichfield, claimed as the earliest of the large hard drumheads, maturing earlier than the Fottless Brunswick. It is of German origin, and is highly recommended by those who have tried it; also the Netted Savoy, an improvement on the ordinary Savoy, being very much crimped and netted. It is known to many that Savoy varieties of cabbage are the finest flavored. The thousand-headed cabbage, or kale, produces a most abundant crop, and is a useful plant for cattle or sheep. It is reported as not injured by slight frost.

The Gerry Island Cauliflower is reported as earlier than any of the others, and as excelling in reliability of heading. It may be worthy of a test.

The Golden Dwarf Celery, a variety originating recently near Newark, N. J., is highly endorsed and approved of by gardeners there, being extensively cultivated by them. It is described as being entirely solid, of excellent flavor, and one of the best winter-keeping varieties known.

The Bay View Melon is spoken of as a large, prolific and fine-flavored, green-fleshed melon, reported of great value, as producing melons of from ten to fifteen pounds in weight, and may become a standard variety.

In English Peas we have Day's Early Sunrise and the Stratagem; the former is claimed as one of the earliest marrows, and has been pronounced exceedingly prolific and of superb quality. The Stratagem has very large and numerous pods, and is spoken of by the Gardener's Chronicle as a grand acquisition. The Challenger is also favorably spoken of. Culverwell's Telegraph is highly endorsed; the peas are of a deep green color, and of fine flavor.

A comparatively new variety of Spinach is the Savoy-leaved, claimed as producing twice the weight of crop that other kinds do, and also as being the hardiest of all the varieties, a most valuable quality.

The Perfect Gem Squash is announced as equally valuable as a summer or winter squash, strong grower, large yielder and splendid keeper. The Putman Squash is also highly spoken of, differing in color from other varieties, being of a grass green intermixed with white.

In tomatoes, the "Perfection" has been introduced by Mr. Livingstone, and if this is an improvement on previous varieties originated by him, it will surely prove valuable. Also the "Mayflower," advertised as the earliest large tomato cultivated, and with a firm and smooth skin, indicative of good shipping qualities.

In speaking of peas we omitted to mention the "American Wonder," a new dwarf pea whose distinctive feature is its dwarf growth, seldom exceeding ten inches in height, of fine quality and productiveness; it is a cross between the Champion of England and Little Gem.

#### Oshawa Farmers' Club.

This club held their meeting at Oshawa, on January 21st, and the following officers were elected:—Mr. A. Annis, re-elected President; Mr. D. Lick, Vice-President; Mr. J. F. Tamblin, Secretary; Mr. Thomas Guy, Treasurer. Executive Committee—Mr. J. A. Carswell, Mr. T. Conant and Mr. J. Mothersill. Auditors—Mr. T. Conant and Mr. J. C. Fox.

Mr. Lick, together with other speakers, made some interesting statements. He said that one reason for the crops being so good in 1882 was on account of us having a good old Canadian winter. With plenty of snow we are sure to have good crops the following summer. He thought wheat had been better on high than on low land, but the crops of grain, on the whole, had been better the past year than they had been for the past ten years. His idea was that holding on to grain when a fair price could be brought, was a bad one. Some farmers made money by holding on to their grain, but the majority lost one way or the other. Of course, if the price is very low it will pay to hold on for a time. He had expected a good deal from peas. He put in a piece of sod, but the twitch grass nearly choked it out. He also sowed a piece on fine land, and the yield was larger than usual. Oats were good. Corn was not up to former years; the stalks on which we had depended largely for cow feed were very poor. There was no substance in them; the cows did not seem to care for them, and gave less milk in consequence. Potatoes were rather a poor crop; but hay was an extra yield. The large majority of the crops raised by the farmers to sell paid them very well this year. Pork has paid the farmer very well; giving the N. P. credit for this, but the scarcity of corn in the west would hardly account for it. Sheep has paid the last year. He would never allow sheep and cattle to run together, as the sheep pick out all the fine grass and leave the worst for the cattle.

The latest official returns show the production of wheat in Australia to amount to about 32,000,000 bushels, distributed among the colonies as follows: Victoria, 3,708,737 bu.; New South Wales, 3,708,737 bu.; Queensland, 223,243 bu.; South Australia, 8,606,510 bu.; West Australia 4,364,400 bu.; Tasmania, 750,040 bu.; New Zealand, 8,147,705 bu.



## Poultry.

## Plan of Portable Perches.

A A, perches; B B, kerosene cups; D D, cross pieces; C C, standards. I think this is the best plan for perches I have ever seen, for the following reasons: It prevents chickens from crowding at ends of perches. The ends do not connect with sides or ends of building. The kerosene cups prevent vermin from working to and from any part of the building or on the chickens at night. The coop is more easily kept free from vermin, and does away with white washing and cleaning in a great measure. They are not expensive, and in many cases the standards can be mortised in the floor beams, and then would require only four pieces of timber. I made my perches of 2 x 4 pieces, and find them to work first-class. I made my perches 14 inches high, and 22 inches from centre to centre. The perches are not mortised all the way through, and are not fastened, and can be lifted off and the whole thing moved out in a few moments.

## The Poultry Yard.

The past year has been a splendid year for ducks, and the attention which of late years has been bestowed upon poultry is now manifest in the astonishing size of the ducks offered for sale, and it is more than probable that poultry shows have done much towards this increased production of good meat, especially by making farmers aware of the existence of the comparatively lately known Pekins. My observation leads me to the conclusion that in many yards drakes of this kind have been introduced, and by the infusion of new blood and the care of a male bird of weight the result has proved most satisfactory to breeder and purchasers, the ducklings being strong as well as heavy. At the same time I am by no means certain that those who wish to keep ducks of a pure breed will be wise to forsake the long tailed and honest Aylesbury for our yellow billed giants. Taken all round our good old friends are hard to beat; at the present time I am getting more eggs from ducks than from hens, and if account had been carefully kept of the number of eggs laid since November, 1880, the record would surprise any one unacquainted with the Aylesbury breed. So far as my experience justifies me in speaking, regarded as a layer, and especially as a winter layer, the Aylesbury is before the Pekin, whilst the flesh of the Aylesbury is quite equal, if not a shade superior, to that of the other.

The secret of fattening animals and birds is to give just as much suitable food as they require, and just when they require it. Eat, drink, and repose, should be the motto of a duck breeder. Bearing this order of words in mind, no one can suppose that a swiftly running stream can be desirable for ducklings intended for the market; on the contrary, it is evident that the exertion of working to or from home against the stream cannot conduce to the greatest quantity of the succulent amount of food. Ducklings are all the better for a good grass run, and a small pool of water, to which they may have access at all hours; but if intended for the market they cannot be supposed to obtain their own living, and therefore it is quite an error, though too common a practice, to tempt them with the possibility of more exercise than is absolutely necessary.—[Ex.]

## A Profitable Vocation.

It is now a matter of fact that no branch of the live stock business suits the masses of the people better than fowl raising. It is a paying vocation, and is adapted to the young as well as the old, and to all sections of the country. Prime poultry is desirable in every poulterer's beginning. The wisest methods are the best and the cheapest in the end. Pure bred stock costs more at the start; but once established in the breeder's yard, its beauty, prolificness, stamina and courage, and the consequent value of all the specimens produced from the original breeding birds, more than make up for the extra outlay spent at the outset, while procuring the very best stock that money can buy.

## Green Food for Winter Use.

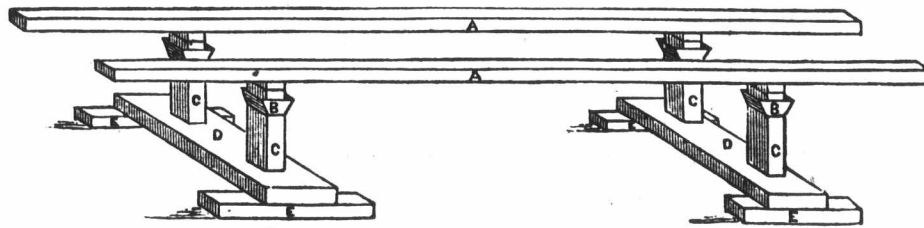
Every breeder should see that his fowls are provided with green food for winter use. On a moment's reflection one can see that it is necessary to insure health and prolificacy. Fowls, as well as other animals require a certain amount of coarse and refuse matter to keep them free from constipation, indigestion and other kindred complaints.

Cabbage is undoubtedly the very best and cheapest green food that can be had. It is not necessary or economical to purchase prime heads for their use, as the soft heads which are not marketable are just as good, and they cost one-half less. The same with turnips and potatoes, they can be had cheap by purchasing from farmers the small or refuse part of the crop. These articles can be stored in a dry cellar, and will be found very useful during the four or five months of winter when the fowls require good, artificial feeding in variety to make them lay at all during the frigid term, or to incite them to commence their work early in the spring.

The lawn mowings and clover heads can be saved and stored away in coffee sacks in a dry, cool place until needed for use, and by steaming or cooking the vegetable with meal or potatoes there is no waste, and during cold weather is a grand need that must not be lost sight of, if the breeder would like to do his stock justice, and see them thrive and lay well in early spring when their eggs are most valuable for securing early broods.

## How to Make Chickens Lay.

I find there is no profit to be derived unless it is attended with all the care and attention that should be given to any other successful business. Generally the poultry is a perquisite of the wife or daughters of the farmer, and they take the corn from the general stock and no account is taken of it, so that they would be unable to know whether they made a real profit or not. With corn ranging from sixty-five to eighty-five cents per bushel, and



PLAN OF PORTABLE PERCHES.

the price of poultry, there cannot be any profit unless it comes from hatching chickens in January and February for market in May.

I confine my stock to about forty hens, and they require about one and a-half bushels of corn per week, and besides we feed scraps from the table, meat occasionally, and waste cheese when it can be got cheaply. I think the latter is better than curds, which, on account of not keeping cows, I cannot get. For almost two years my chickens have failed only one day to lay eggs. I am now getting about three dozen per week. Last January and February one dozen every day, and my records show me that if properly understood and attended to a hen will earn in eggs a net profit of one dollar per year.

## How to Distinguish a Young Hen.

A young hen may be known by the freshness and smallness of the toes, and the absence of rough and coarse scales on the legs, but more especially by the softness of the breast bone at the lower part. If, when the bone is gently pressed, the edges readily give way to the pressure it may be known that the bone is not fully formed, and that the edges still consist of cartilage, which is the substance of which immature bone is first formed. In choosing poultry the softness or hardness of the breast bone at the edges is the readiest and surest test.

## How to Kill Poultry.

The French kill poultry by opening the beak of the fowl and with a sharp pointed, narrow blade knife, make an incision at the back of the roof of the mouth, which divides the vertebrae, and causes instant death, after which the fowls are hung up by the legs; they will breed freely with no disfigurement; pick while warm, and by this method the skin presents a more natural appearance than when scalded.

## Light Brahmas.

The Poultry Monthly speaks in favor of this breed to the following effect: They are remarkably hardy, and good winter layers, and when properly bred are broad-breasted, compact, solid fowls for the market, and can be kept in good condition on coarse food. For early hatching they cannot be equalled; their soft fluffy feathers keep the eggs from being chilled. They have strong maternal instincts, are quiet and unobtrusive, and well adapted to every situation in life.

For broilers the Light Brahma chickens from eight to twelve weeks old are very desirable, but as roasters they are not in their prime until they are eight or nine months old. Taking all their qualities into consideration they are a remarkably good breed of fowls.

Aside from their inherent qualities they are just the breed that suits the amateur, and it is a certain thing that they can be readily raised under ordinary circumstances. Although being a parti-colored fowl, however, whose plumage is simply white and black, the nice point in breeding of course is to unite these opposite hues of color, so that each will properly belong to its place, and not "run into" too light or too dark in penciling or shading, but just in the right proportions required by the standard.

## Winter Feeding.

In winter, when Jack Frost demands so much heat to counterbalance his icy touch, we must keep our fowls comfortably warm, and feed them on such food as will supply the requisite amount of heat. It is true, corn is a most excellent winter food, in connection with other grain, to enable stock to successfully withstand the cold, but it is poor grain to produce eggs. Buckwheat is good food for winter use. It is heating and stimulating, and induces early laying. A warm mess of wheat middlings, potatoes and scraps of meat makes an excellent breakfast. These combine heat, nutriment and egg properties. Buckwheat or oats for dinner, and wheat or corn for supper, is good fare, but though good in their way, fowls require green food besides.

Hens and pullets that have been fed on this, or on a similar kind of fare, during the few months of winter will, in the early spring, be laying freely. To keep this up, it is necessary that the food should be varied and of good quality. The production of an egg a day, or one every other day, is a strain on the strength and capacity of a hen. At this season fowls cannot forage for their food, and are almost entirely dependent upon what is given them. But we can overdo this thing; they should have all they will eat up clean, but never overfed. Fowls kept up to their full vigor during winter will produce eggs correspondingly strong and healthy, and the chicks will thrive and grow better than when hatched from eggs laid by hens in a neglected or poor condition.

## One Breed Enough.

A leading authority states that, as a rule, one variety of fowls is enough for almost any person to manage successfully and profitably, and this is especially true with beginners, who have to gain their experience in all the varied details of poultry management. If a breeder has been successful with one variety, has not merely made good sales, but has produced birds of such a high order of merit that the stock makes a good advertisement, and a permanent one for the breeder, it can be taken for granted that it will pay to take up one or more breeds, provided the same care is bestowed upon each variety as was formerly accorded the single breed, and provided there are ample conveniences, room and quarters for them. It seldom pays to attempt raising poor bred poultry, unless there is ample room, both in yards and houses, for they must have this to insure their healthfulness and consequent profit.

For cholera in turkeys give a pill of assafetida the size of a pea and about a tablespoonful of equal parts of sulphur, cayenne pepper and rosin.



## Stock.

## Keep the Best Sheep.

The flock owner who would constantly advance the standard of his flock, must adhere to the selfish rule of looking out for himself. He must weed out the least desirable animals, for the shambles or for sale to those who choose to buy, and keep the best results of his breeding and purchases. Where his surroundings are such as to limit the number of animals that can be profitably handled, but a few years need elapse before a comparatively high standard can be attained, and this still further advanced by a rigid weeding out of less desirable members of the flock, and holding on to the best in spite of the temptations of long prices for parting with them. Many of the most successful breeders make it a rule to cull out and sell a certain number of sheep each year, supplying their places from a choice of lambs. This not only adds to the flock the latest results of breeding, but also serves to keep its number good from young animals, competent to withstand such accidental hardships as may overtake them, and from which may reasonably be expected the best response to liberal feeding and intelligent manipulation.

The man who permits his flock to be "picked"—be the price received ever so tempting—but lends swiftness to his competitor, which will be turned against himself in subsequent races for supremacy as a breeder. The man who thus invites himself to a secondary place on the list of breeders, need not affect surprise when the better foresight and stronger nerve of his neighbors place him still lower in the category of those who secure success by deservng it.—[National Live-Stock Journal, Chicago.

## Gentleness with Horses.

A horse cannot be screamed at and cursed without becoming less valuable in every particular. To reach the highest degree of value the animal should be gentle and always reliable, but if it expects every moment that it is in the harness to be "jawed" at and struck, it will be in a constant state of nervousness, and in its excitement is liable, through fear, to do something which is not expected, as to go along doing what you started it to do.

It is possible to train a horse to be governed by word of mouth, almost as completely as it is to train a child, and in such training the horse reaches its highest value. When a horse is soothed by the gentle words of his driver—and we have seen him calmed down from great excitement by no other means—it may be fairly concluded that he is a valuable animal for all practical purposes, and it may be certainly concluded that the man who has such power over him is a humane man, and a sensible one.

But all this simply means that the man must secure the animal's confidence. Only in exceptional instances is he stubborn or vicious. If he understands his surroundings and what is required of him, he gives no trouble. As almost every reader must know, if the animal when frightened can be brought up to the object he will become calm. The reason is he understands that there is nothing to fear. So he must be taught to have confidence in the man who handles him, and then this powerful animal, which usually no man could handle if it were disposed to be vicious, will give no trouble.

The very best rule, therefore, which we would lay down for the management of the horse, is gentleness and good sense on the part of the driver. Bad drivers make bad horses, usually.

## Winter Exposure of Live Stock.

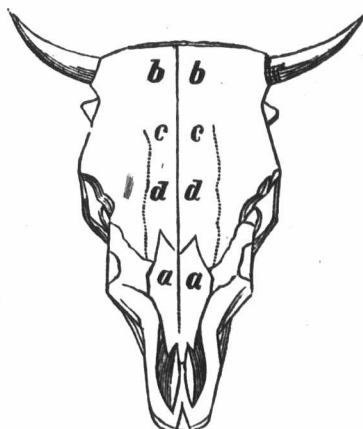
The importance of giving proper shelter to all farm animals cannot be too strongly urged. Looked at simply in the view of dollars and cents, it does not pay to have the sheep, pigs, cattle, or horses left out of doors in the piercing winter winds. The animal heat must be kept up so long as life lasts, and to do this, either a larger amount of fuel must be consumed, or the fire will be fed by accumulated or stored up fuel in the form of flesh, and the animal grows poorer. It is cheaper, as far as it can be, to keep up the animal heat by shelter than by food. A shivering, suffering animal is not in a profitable condition. There is also an appeal to the humane side of our nature in this lack of comfort. Provide good shelter from the weather for all farm animals, for it pays in more ways than one.

## Catarrh or Hollow-Horn.

HENRY STEWART.

Many writers and other persons have "made merry" and have used sarcastic remarks in regard to the popular belief in "hollow-horn." A man needs to live and keep his wits about him and observe and study for half a century, sometimes, before he comes to learn that nearly all popular beliefs have some basis of truth for their foundation. And so "hollow-horn" or "horn-ail" is really and truly a matter of fact. The only mistake about it is that the popular name indicates the effect of the disease and not its original source. This is, in fact, catarrh of the lining mucous membranes of the nasal and frontal sinuses of the head. This disease is so frequent and so often serious that it is worthy of particular notice for its own sake, and more especially to help to remove the popular ignorance about it by which the troubles arising from it are left without remedy because they are ignored. A description of the head of an ox or cow may be useful for this purpose.

We give an outline of the skull of a cow, upon which the letters *a, b, c, d*, show the positions of the sinuses or interior cavities of the skull, which serve to greatly strengthen the frontal bones and enable the skull to resist the concussions which are common with horned animals. The line down the centre is the median suture of the frontal bones. At *a, a*, are the bony plates which cover the nasal sinuses; at *b, b, c, c*, and *d, d*, are the localities of the divisions of the frontal sinuses. In the ox the frontal bone, which in fact forms the foundation of the face, is largely developed, and is of great thickness.



SKULL OF A COW.

From this bone proceed at each side of the upper extremity the bony cores which support the horns, which however, are not the horns, but important portions of the skull. These horn cores are filled with small vascular channels and canals, to such an extent as to render their substance extremely spongy in appearance. The frontal sinuses are prolonged into these horn cores. The horns themselves are attached to the skin only, and are merely the protecting covers of the cores, which are extremely sensitive and extensively supplied with veins, arteries and nerves. The horn itself is wholly insensible, as is the hair, being, in fact, in structure nothing more nor less than hair compressed into a solid form, so to speak.

This explanation of the structure of the horn and its immediate connection with the interior of the skull, should be sufficient to show how easy it is for the horn cores to be affected by any disease which involves the membranes lining the cavities of the skull. Exposure to cold or to sudden changes of the weather almost invariably produces inflammation or catarrh of these membranes; and, of course, the horn cores are affected at the same time because the membranes reach into and entirely through their substance, which being extremely cellular on account of the numerous canals and passages, is covered by a very large surface of the sensitive membranes.

Inflammation soon leads to suppuration, and the passages which lead from one sinus to another may soon be partly or wholly closed by the swollen condition of the membranes and the accumulation of the secreted mucus with whatever pus may have formed. Here then are sufficient causes for the extreme uneasiness and distress which mark this disease and produce the weakness and emaciation common to it. The appetite is lost; the whole system is feverish and disturbed; the circulation is disorganized; the patient suffers the most violent pains in the head from the compression of

the mucus and the pus in the cavities as well as from the congestion of the blood vessels. The owner, under the advice of some neighbor, hoes into the horns with a gimlet and the pus is discharged, giving instant but temporary relief. Perhaps under the continuous effect of the disease the bony cores have entirely sloughed away and have passed through the nostrils in the shape of a fetid, purulent discharge, and when the horns are bored they are found completely hollow. We may thus see how the popular idea of hollow-horn has originated, and that it is justified to a great extent by the facts.

The treatment of the disease is somewhat difficult from its deep-seated locality. Prevention, by careful attention to the warm, dry, comfortable lodging of the stock, will avoid it. When it occurs, and the inflammation has spread to the horns, the case may be treated by blisters or other counter-irritants upon the poll, and even by boring the horns and injecting soothing and antiseptic liquids, which may wash out the affected cavities and restore the condition of the membranes. Warm water with 10 or 12 drops of carbolic acid to the pint would be employed beneficially. But medicines should also be used. A strong cooling purgative, for instance, one pound of Epsom salts, with an ounce of nitrate of potash (saltpeter) added might be given and repeated the third day. After that, a daily dose of one ounce of hyposulphite of soda should be given until recovery is assured. Warm mashes and gruels would be very beneficial; warm clothing; steaming the nostrils, and washing them with the carbolated warm water would also tend greatly towards a recovery. By neglect, the disease may become chronic, when the distress suffered would greatly lessen the value and profit of the animal, and it is very probable that the disease would prove infectious or contagious in a herd, and is therefore all the more serious on that account.

## Succulent Food for Cows.

I would say in reply to Mr. C. E. Cassell, that, 1. Turnips are good food for milk cows, but should not constitute the whole feed. Fed with other appropriate food they contribute both to richness and quality of milk. 2. Mangolds are more productive than turnips or beets, and make a better flavored milk than turnips. They are the most profitable roots to raise for feeding. 3. Rye is a good crop to raise for cutting green to cure for feeding milk cows when grazing cannot be had, but grass is a better and cheaper crop to raise for the same purpose, wherever a fair crop can be raised. There is no fodder which surpasses dried grass either in cheapness or in the richness and quantity of milk produced, when it is cut green as one would cut other green crops for cows in milk. Rye will produce more to the acre than grass, but it also costs more to raise it. If the ground is to be used for another crop the same season and the land kept under the plough, grass will be out of the question, and rye will be found an excellent crop if cut just before blossoming. If cut later it depreciates by becoming woody.—[Professor L. B. Arnold.

## American Berkshire Association.

The seventh annual meeting of the above society was held on Jan'y 5th, in Springfield, Illinois. By the report of the secretary we see that a deeper interest on the part of breeders and exhibitors of Berkshires has been taken in the registering, as to the advantages of which there can be but little doubt. The past year has been one of unusual prosperity to the breeders, the demand for first-class registered stock having been greater than ever before. There has also been, on account of improved management and sanitary conditions, a great reduction in the number of losses from disease, the production being thereby greatly increased. Yet prices have been well sustained, owing to the fact that, notwithstanding the restrictions imposed by European governments, the demand for American pork for shipment abroad has steadily increased. The Association is in a most encouraging financial condition. The secretary of the Association is Mr. Phil. M. Springer, Springfield, Ill.

Mr. DeGrouchy has purchased some valuable prize takers for Mr. Fuller, of Hamilton, Ont., among them the celebrated Jersey bull "Welcome," winner over the whole Island of the special "Guenon" prize at the Royal Agricultural Show, the great exhibition of the Island, when he had over 50 of the best bulls in competition.



**Oaklawn Farm.**

Herewith we present our readers with a photographic view of "Oaklawn Farm," the property of M. W. Dunham, Esq., Wayne, Du Page Co., Illinois, U. S., 35 miles west of Chicago, which has grown from small proportions, a decade of years ago, to be the most extensive horse breeding and importing establishment in the world. The barns present a solid frontage of 660 feet, and have a rear extension of 600 feet more. They have been constructed with a view to convenience, and are models in that respect. On this farm may now be seen one-fifth of all imported French horses now living in America. The winners at all the great animal shows of France for the last ten years have been concentrated at "Oaklawn;" among them the two stallions receiving the first prize and gold medal at the Universal Exposition, Paris, 1878; the stallion and mare honored by a special commendatory report and medal at the Centennial, 1876; and 25 stallions and mares shown at the Great Show of France, 1881, taking every prize but one offered; and lastly, those shown at the Great Chicago Fair, 1881, where, competing with the largest and finest collection of Clydesdale horses ever shown, consisting of the Great Shows of Scot-

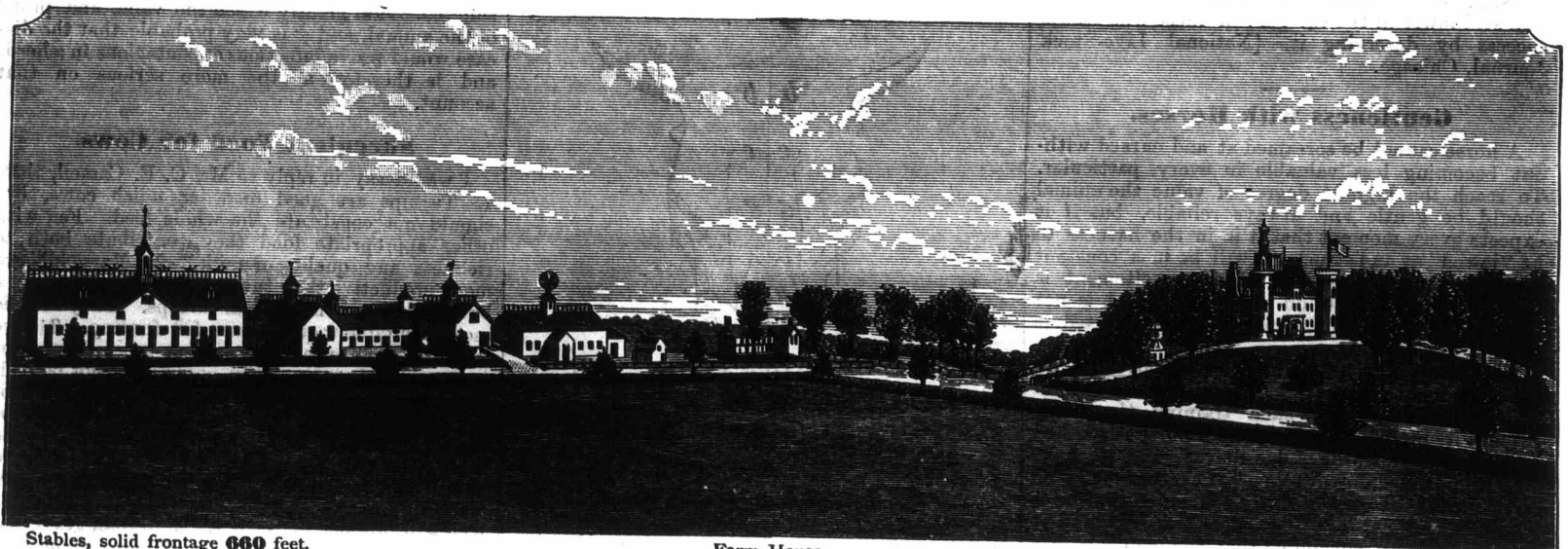
authority, and this article may, in a degree, be regarded as a condensation from them.

**THE HOME OF JERSEY CATTLE.**

The Island of Jersey is one of the Channel Islands, being situated in a deep bay on the north-west coast of France, and is eleven miles in length and five miles in breadth. The language spoken is French. The British Government (of which it is one of the possessions) maintains military governors, garrisons and forts, and pays the militia. There are no custom duties. The climate is mild and genial, even in winter, vegetation luxuriant, the soil most fertile; there is an abundance of rich pasture, so much so that the cows are usually tethered, and, on account of the mildness of the climate, are only housed in very stormy weather. The inhabitants number sixty thousand, being two to every acre. Many villages are to be found throughout the Island, which is on a rocky bed, between which and the rich surface soil there is, in many places, a sub-layer of gravel. The eastern portion of the Island is the richest in verdure and most productive. The farms are of very small extent, and cannot be devised or inherited, but follow the law of succession; a farm of 15 acres is considered of good extent, and few exceed 50 acres. An authority states that, in the immediate vicinity

Island, breeders take their cows or heifers in a waggon to secure the services of any very excellent bull—thus crossing and re-crossing with the best of blood, thereby improving and perfecting still more this already beautiful and valuable breed. The cattle now known in England and the U. S. as Jerseys (and properly so), were first introduced into England under the name of Alderneys. The act passed in 1789 by the Local Legislature was, that "the importation into Jersey of cow, heifer, calf or bull was prohibited, under the penalty of 200 livres, with the forfeiture of boat and tackle, with a fine of fifty livres to be imposed upon every sailor on board who did not inform of the attempt at importation. The animal was to be immediately slaughtered, and its flesh given to the poor." Later laws are equally as stringent; no foreign horned cattle are ever allowed to come to Jersey except as butchered meat.

The Jersey is small in stature, with a peculiar deer-like appearance; the head is long and slender, the muzzle very fine, a light colour encircling it; she has large, soft, dreamy eyes, crumpled horns, short and small at the base, often amber in color, and tipped with black; ears small and very yellow within; clean neck and throat; very slender and fine limbs; broad hips; the body somewhat round; skin loose and very yellow, and, what is most prized of all, an udder well formed and most capacious; enormous milk veins, coupled with a beautiful escutcheon. They are very quiet in disposition (knowing and remembering their attendants,) so much so that utter strangers may enter



Stables, solid frontage 660 feet.

Farm House.

Residence.

**"OAKLAWN FARM."**

The property of M. W. DUNHAM, Wayne, Du Page County, Illinois, the noted Importer and Breeder of Percheron Horses.

land and England, the were awarded the grand sweepstakes prize of \$1,000 and grand gold medal.

The residence shown in the picture, is a palatial one, and probably the costliest and best country residence in the Western States.

Mr. Dunham is to be congratulated on the colossal success of his business, which is continually increasing. Large numbers of Percherons, selected from his stables, are being sold to Canada

**Jersey Cattle.**

THEIR VALUE AS BUTTER MAKERS.

By Frank E. Vance.

As a great deal of interest is now being taken in Jersey cattle in the U. S. and England, which, to a limited extent, is being reflected in Canada, many of the readers of the FARMER'S ADVOCATE, unaware of their great value as dairy cows, may be interested in having placed before them some facts concerning them. I shall give a few notes relating to the Island of Jersey, and the manner of breeding, etc., followed, and also facts and figures to justify the high esteem in which these cattle are held. I shall quote extensively from works of

of St. Heliers (one of the towns) £9 per acre is the rental; at a distance of two or three miles, £6½ to £7½ per acre; beyond that, £4½ to £6 per acre are the rentals. A farm of 20 acres will be, with few exceptions, distributed as follows:—Hay, 10 acres; roots of various kinds, 6½ acres; wheat, 3½ acres. The stock usually kept will consist of two horses, six cows and six heifers and eight pigs. To manage this and keep it in order will require the constant attention of four persons (two men and two women); in most cases the farmer has not recourse to assistance beyond that of his own immediate household, and it is indeed a rare occurrence for a tenant farmer to hold a farm of this extent (twenty acres), unless he can rely upon his own family for assistance.

Every farmer is a breeder of Jerseys, the aim being to cross the bulls from some of the best butter-makers with some of the largest butter-giving cows; every energy being devoted to producing the most perfect Jerseys possible for sale to the English and Americans, who eagerly purchase the best bred to be procured. A stringent law has been in force, since 1789, prohibiting the importation of any live cattle to the Island, so that it can easily be seen with what purity the animals have been bred. Also, from the small extent of the

their stalls and handle them with perfect freedom and without disturbing them; as to children they are perfectly safe in being about them. Having been reared to confinement, they are not fond of wandering; are hardy and easily kept—in fact it is not considered good policy to feed them at all high. They are not good beef cattle; their qualities as butter-makers preclude it, but the meat is very sweet and juicy, but too yellow in color. The winter food consists of ten to twenty pounds of hay and the same amount of roots; they can generally pick up a small quantity of grass, and upon these two a rich and highly colored butter is produced up to within 6 weeks of calving. The yellow color of the butter is a unique characteristic, existing to as great a degree in Jersey butter in winter as in that of other cows fed on June grass.

The Jersey cow in her native home is always treated with the utmost care (generally devolving on the women), more especially is this the case as she approaches calving, which is generally regulated to take place in April or May—the calf is rarely allowed to suck the cow.

The best of cheese is made from their milk, the quantity of milk that would produce a pound of butter, making one and a half pounds of cheese. Some of the best cows give 26 quarts of milk daily and 14 pounds of butter a week in the pasture, but twelve quarts of milk, or even less, and 10 pounds of butter at that season is the produce of a good cow. It is not claimed that they are great milkers, and it is conceded that Ayrshires give a



larger quantity as a rule, but it is maintained that from a smaller quantity of milk a larger quantity of butter can be obtained, sweeter, finer and better colored than from any other breed; it is also claimed that the flow of milk is more uniform, and for a longer period of time, and the percentage of cream is much greater. Speaking of this Col. Waring says: "The unusual secretion of fat in the milk may be attributed to the slight waste of fat forming portions of the food that limited exercise make possible, and to the fact that fat in this form, rather than in the flesh, has long been the prime object of the breeder's attention. Formerly great stress was laid on the color of Jerseys,—solid colors with black tongues, black and long switches, black points, alone commanding high prices, but of late years more regard is being had to their accomplishments at the pail and in the churn than in the show-ring; this is fortunate, as doubtless the Jersey is purely a cream and butter cow. Beautiful and blood-like in appearance they will always remain, whatever be their color and their markings."

Having endeavored to give a limited description of the Jersey in her native home, I will, in the next number, and as shortly as possible, give some facts in connection with the enormous yields given by Jerseys in the U. S., merely adding that, in one year one agent (Mr. Le Bas), in the island, shipped 2,041 head, representing £29,000, and this was before the present great demand had set in and reached the proportions it now has; the same number of head would now be valued at £38,000.

(TO BE CONTINUED.)

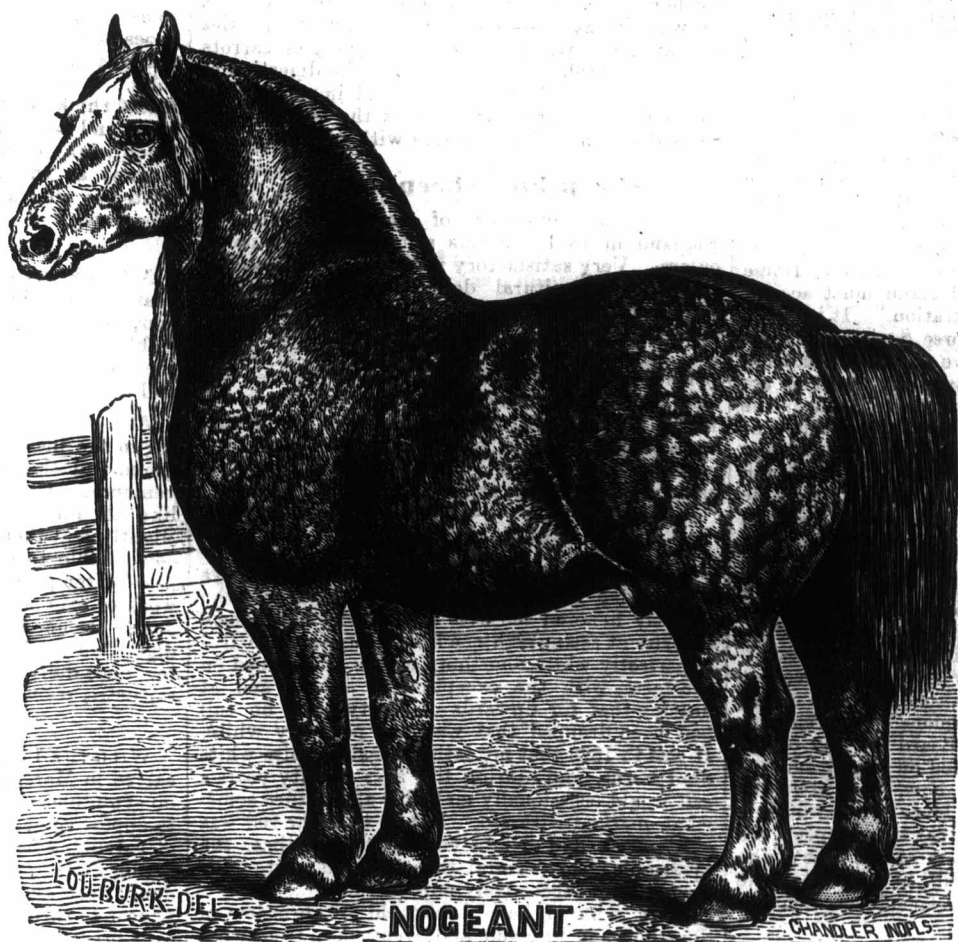
**Sheep Farming.**

How is it that Canadian farmers do not pay more attention to sheep farming? There has been some years a good demand for wool and mutton, and yet buyers have reason to complain of the scarcity of sheep, and within our knowledge of Canadian farming and markets mutton has advanced in prices over seventy-five per cent. Canadian soil is well adapted for sheep farming. The mutton is of superior quality, more especially so of the Down, and diseases, as rot, scab, etc., are almost wholly unknown. The only objection to sheep farming is the necessity of providing food for the long winter. For a season of not less than five months there is no pasture for sheep, and they must be supported by fodder, grains and roots. Even allowing this drawback, sheep are more profitable than other stock. English agricultural writers lament the reduction in the number of sheep there as a national loss. The flocks there have been reduced of late years by some 6,000,000. The Agricultural Gazette, no mean authority, says: "The plague must be considered as due to sheer misfortune rather than to any real change of opinion as to the relative profitableness of cattle and sheep. Sheep-pox carried off its tens of thousands in 1863; drought decimated our flocks in 1868 and 1870, sending thousands and tens of thousands prematurely to the knife; then came the wet decade, in which liver-rot became a fearful scourge, in some cases destroying entire flocks. These plagues have frightened many farmers into giving up their flocks, and we attribute the great reduction of the sheep stock of the country to their effects."

The drier climate of Canada is a preventative of the diseases from which English flocks have suffered so much, and her soil needs but the skilled culture and a judicious selection of grasses, to cause sheep to be looked on more favorably by our farmers than they have been regarded by many.

We must, however, bear in mind that there are circumstances, as climate and character of soil, that make some localities especially suitable for this stock. It has been well observed that cattle are the stock for the low lands, and sheep for the hills. "Cattle for strong land and sheep for the light. These are the leading divisions between the two kinds of stock which Providence has marked out and which cannot be deviated from without loss."

The writer in the Gazette gives valid reasons for his preference to sheep farming. He produces figures in support of his opinion that sheep are a profitable stock, and that a ewe flock is perhaps the most profitable of all the varieties of sheep stock. A ewe flock will pay \$10 per head of ewes kept, provided the right sort is kept and they are fairly well managed. In other words, 100 ewes will pay \$1,000. As this stock should be maintained on 100 acres of land, sheep will pay \$10 per acre, and as the same 100 acres ought to yield 40 acres of grain at an average value of \$40, or \$320 over all, and as we might reasonably look for \$5 per acre



Weight, 1950 pounds.  
Imported from France in 1877 by E. DILLON & Co.  
Nogent has been exhibited at 20 fairs since he was imported, and has been awarded 21 premiums. He was one of a four-in-hand team awarded first premium, \$100, at St. Louis fair in 1877 and 1878. He has taken 7 first premiums at the Illinois State Fair during the last five years, being more first premiums than any other stallion ever imported to the United States has taken at the Illinois State Fair.

from dairy and other sources, we have a gross income of upwards of \$30 per acre from this system of management upon land of naturally poor quality, which, were it not for sheep husbandry, might not be worth breaking up. In such cases the sheep make the corn crop, and must be considered as the mainspring of the farm.

This calculation of profits is based upon English returns, and may require some modification for Canada. However, they must be of practical value to us, also, as demonstrating what profits may be realized from sheep farming under ordinarily favorable circumstances.

H. C. writes:—My cows have in 1881 averaged \$90 to the cow in butter alone, so I think it will pay to keep a few more good Jerseys.

We would call the attention of owners of "Jerseys," who wish to increase their herds by direct importation from the Island, to the advertisement of Mr. E. Fuller, which appears in this issue.

**American Clydesdale Association.**

THIRD ANNUAL MEETING.

During the week of the Fat Stock Show, the third annual meeting of the American Clydesdale Association was held at Chicago; Mr. W. G. Powell, of Springboro, Pa., president, and Charles F. Mills, Springfield, Ill., secretary. Among the large number of the members present were M. L. Devin, Des Moines, Iowa, E. A. Powell, Syracuse, N. Y., A. Z. Blodgett, Waukegan, Ill., and many others, besides a large number of breeders and importers representing Scotland and Canada. The treasurer's report showed \$878.20 on hand. The report of the executive committee was concise and full. It showed that the work of the association has been advanced as rapidly as practicable; that the association during the last two years has united all the leading and reputable American and Canadian breeders and importers of Clydesdale horses in the work of improving the breed, by the publication of a stud book that will enable all interested to intelligently determine the breeding

and value of well-bred Clydesdale horses. The association has assumed great responsibilities, and the rulings made in reference to the quality and purity in breeding necessary to entitle horses to registry in the future were recommended for adoption, as the lowering of the present standard would admit a large number of grade horses of uncertain qualities for breeding purposes, and correspondingly depreciate in value, so far as registry is concerned, the horses of reliable breeders.

The rejection of upward of 2,000 pedigrees of stallions heretofore advertised and used in many cases with the belief that they were well-bred Clydesdales, has had the effect of creating much feeling and bitter opposition on the part of dishonest dealers in the United States and Canada, who have heretofore had no check to the lucrative business of manufacturing pedigrees to order for grade horses, which, owing to the limited supply of well-bred Clydesdales, found a ready market. The association has given the owners of eligible horses all possible assistance in obtaining requisite information concerning the pedigrees, which has necessarily delayed the publication of the stud book much beyond the time contemplated.

The volume is now practically ready for the printer, and contains the pedigrees, with scarcely an exception, of all the early imported Clydesdale stallions of any note.

The committee appointed a year ago, consisting of James I. Davidson, Ontario; Simon Beattis, of Scotland, and E. A. Powell, of Syracuse, N. Y., to prepare a scale of points for the Clydesdale horses, did not agree upon a report. Mr. Powell of the committee submitted a report which elicited much discussion, but was not adopted by the association. It outlined very clearly the excellent points of a Clydesdale horse, and will serve a good purpose until a better standard is presented. His scale is as follows:

1. Pedigree—No horse desirable unless well bred..... 8
2. Size—Medium and blocky most desirable... 3
3. Symmetry—Perfection and form..... 7
4. Style and carriage..... 5
5. Action—Lofty, free, bold, square-gaited, and a rapid elastic walker..... 7
6. Color—Dark bay or brown, without objectionable marks..... 4
7. Head—Broad between the eyes, good brain, nose clear cut, not too large or too Roman 4



8. Eyes—Large, full, clear, bright, cheerful, spirited.....	5
9. Ears—Of medium size, thin, clear cut and shapely.....	3
10. Neck—Light and round near the head, good throat, tapering, arching, and well set on the shoulders.....	3
11. Chest—Broad, deep, full, denoting good lung power.....	5
12. Girth—Large and full about the heart.....	2
13. Barrel—Round, good length and full at flank.....	5
14. Back and Loin—Short, broad, well coupled.....	7
15. Hip—Broad, long, with proper shape, tail well set.....	3
16. Stifle—Broad, deep, muscular.....	2
17. Gambrel—Broad, clean, cordy, not too straight.....	6
18. Limbs—Hard, smooth, clean, flat, broad bone, of fine quality, and fringed with silky hair on back side to knee and gambrel, broad knee, proper slope and elasticity to ankle.....	10
19. Feet—Solid, good depth, tough, solid shell, good frog and flat.....	6
20. Temper—Docile, kind, cheerful, but spirited and resolute.....	5
	100

The following resolution was introduced by Dr. Stetson and adopted: "Resolved, That Clydesdale horses imported to America after January 1, 1882, must trace to sire and dam recorded in the Clydesdale Stud Book of Great Britain and Ireland to entitle them to record in the American Clydesdale Stud Book, and certificates to that effect from the secretary of the Clydesdale Horse Society of Great Britain and Ireland must accompany the application for registration." It is to be hoped that the Clydesdale Horse Society of Great Britain and Ireland will have no further occasion to admit to record horses whose sires or dams are unknown, as such a course tends to confirm the impression, quite prevalent in this country, that some importers have little trouble in recording pedigrees of stallions that are not well enough bred to enable their owners to make a profitable season with them in Scotland. American breeders of Clydesdale horses want, and can well afford to purchase, the best stallions that can be had in Scotland, and importers will always find a ready and profitable market for superior Clydesdales.

At the time of the meeting there were on exhibition, in the exposition building, horses representing choice specimens of their respective breeds—one roadster, three trotters, one English draft, three Clydesdale and five Normans. No premiums were offered by the State Board for any of the horses. These horses remained on exhibition during the entire time of the show, and attracted much attention from every lover of good horses. Secretary Mills informs me that the prospects are that a large increase in numbers of the best of the different breeds of horses will be offered at the next fat stock show.—[Correspondence Country Gentleman.

#### Pig Notes at Kirby Homestead.

COLONEL F. D. CURTIS.

Instinct is a good teacher, and by observing it we may unwittingly learn valuable lessons. When our pigs ran in the pasture, we often noticed them rooting over the coal ashes which were thrown into that field, and we found that they picked out and ate all the charred bits of coal. Since that discovery the coal ashes have been kept dry in winter and have been thrown into the pens, where the pigs, following the same instincts, have eaten all of the cinders. The ashes, being dry, help to absorb the juices and are thrown out into the manure heap and add to its volume. This is the most economical way to dispose of coal ashes, which are often left to accumulate around the back door, making an unsightly pile, or are thrown into the street, which is equally objectionable. Where pigs run out into a yard, the ashes could be thrown into it, where they could likewise be accessible to the pigs. When allowed an opportunity to exercise its instincts, a pig becomes its own physician and mingles these cinders with its food, thereby neutralizing the acidity of the stomach and promoting digestion. The charred pieces of coal counteract the fermentation of the food and help to keep up the appetite by strengthening the tone of the stomach. Pigs when strongly fed are always more or less troubled with dyspepsia. Charcoal is undoubtedly better as a corrective and absorbent than the cinders of coal, but it is not so

easily obtained. We are careful to give our pigs charcoal also, which they eat greedily, and it would be well to sift all wood ashes to get as much charcoal as possible for the pigs. Both of these antidotes for fermentation in the stomach are especially beneficial and important while pigs are being fattened, as at this time their digestion is more liable to be overtaxed. A healthful digestion makes a healthful and rapid growth, while there is very little gain when the stomach is flatulent and feverish, as such a stomach will not digest and assimilate food. It will receive it, but this function is not enough.

#### Carrots as Food for Stock.

In many respects carrots are preferable to any kind of roots raised in this country for stock. A given weight contains a larger proportion of flesh, fat and milk-forming principles. They impart a desirable color and no undesirable odor or flavor to milk. They are rich in sugar, and are therefore relished by young stock. When cooked they are readily eaten by pigs and poultry. As food for horses they are very far superior to any roots grown. Many horsemen in this and other cities are at great pains to procure a supply of carrots for their stables. They improve the digestion of horses, keep up their condition, and impart a gloss to the hair. Carrots are almost the only kind of roots that can be fed to horses with advantage.

#### Shropshire Sheep in 1881.

An annual summary of Shropshire sales in England in 1881 contains some interesting particulars. Very satisfactory results were obtained in spite of agricultural depression, and enquiries were numerous. The highest price obtained for a ram during the year was 205 guineas, at which sale 33 were sold giving an average of £29 1s. 6d. per head. For ewes the highest price obtained was £32 11s. 0d. and the highest average was £6 16s. 8d. for a flock of 90. The compilers of the annual state that if England is kept free from cattle diseases, sales of the best class of stock will be quite as good in the future as in the past.

#### Cattle Breeding.

A distinguished breeder of short horns, says Ben. Perley Poore, in American Cultivator, who recently honored me with a visit, expressed some surprise at seeing eighteen head—large and small—of perfectly white Shorthorn cattle, all dropped on the farm, with the exception of a bull, and at hearing that for upwards of thirty years no calf had been dropped that was not perfectly white. It was in 1829 that my father began to raise white Shorthorns, and during the first twenty years a calf would occasionally make his appearance somewhat marked with red. But in time the red was obliterated, and of late years white has been the invariable color, several thoroughbred white bulls having been successively purchased.

From what I have been told by breeders of Shorthorns in England and Kentucky, from what I have seen and from what I have read, I believe that pure white is the original color of the breed of cattle now known as Shorthorns. They are of Danish origin, and I don't believe that they have any Dutch blood, for who ever saw a black patch of color on a Shorthorn? On the contrary, the white which abounds on Dutch cattle comes from Denmark.

The red, to be found in the improved English Shorthorns, and the short, thick horns, were produced, I believe, by crossing the Galloway cattle of Scotland, with the white Danish cattle. The Galloway cattle are now hornless, but the breed had short, chunky horns a hundred years since, before the pastures on which they fed had been deprived of the phosphate of lime which their soil originally contained.

The fact that the herd of Chillingham Castle, in old England, with thousands of other herds, perpetuate the white color and other characteristics of the ancient Danish cattle, shows that the Shorthorns are a distinct family, and that the original color of that family is white.—[Ex.

The Mark Lane Express comments approvingly on the "stong and growing feeling" among us in favor of polled cattle, and suggests that possibly good results in the same direction might be obtained by "breeding off" the horns of native stock—by searing in calfhood, or similar means to start with. "There are well authenticated instances in which mutilations and injuries have been inherited."

#### Veterinary.

##### Remedies for Diseases, Etc.

The following is a first of a series of replies to questions relating to the diseases of domestic animals. They have been arranged in an interrogatory form:

**A CLYDESDALE HORSE FOUNDERED.**—A valuable Clydesdale horse has a slight founder, say last spring. About four months subsequently his soles came down and caused extreme lameness, particularly in his fore feet. Should the shoes be taken off, feet poulticed, coronets blistered, and broad shoes with heels put on? And if, after these applications, lameness still continues, soles still down and tender frog nearly touching the ground, is there any way of making this horse able to go on the roads again?

**Ans.**—Blister your horse's coronets again and have him shod with bar shoes (something like the letter D, the straight bar passing from heel to heel), so as to put some pressure on the frog; let the shoes be broad in the cover, and hollowed out on the solar surface to correspond with the convex soles. Some horses travel better if the shoes are made thick at the quarters and thinner at the heels and toe. Do not subject the horse to too much work at first, but gradually increase the amount as the lameness passes off. Repeat the blistering after a considerable interval of time, if necessary.

**A MARE WITH SWOLLEN LEGS.**—Suppose a three year-old mare has been at grass nearly all the summer, seldom working, and then taken into the stable and her hind legs begin to swell much from the hock downwards, would this be called "Weed," and how should the swelling be dissolved?

**Ans.**—Animals with weed usually have a swelling in the inside of the eyes, extending up to the groin, and they exhibit signs of pain and inconvenience. Therefore, your three-year-old mare is like all animals brought in from grass, worked slightly and then allowed to stand idle, they become liable to get a swelling in the legs. It is usually temporary in character and passes off with work or exercise. You should exercise your mare gently for one or two hours daily. Give her good digestible food, and, if desired, you may administer once daily during a week a ball composed of saltpetre, resin and soft soap, of each half an ounce.

**WILL THE LUCY BREED?**—If a Lucy should have calved in March, but does not, and there appears no symptoms of calving afterwards, and the milk to appear some month or so previous to her time of calving, and followed by stoppage of the bowels, eating little or nothing for a week, and the calf no doubt dead and no discharge, but the cow should appear to thrive fairly well, is it likely she would ever breed?

**Ans.**—This would be a rare case and presents some interesting features. No doubt the calf would have died at the time the milk came. The fact of no pains of labor coming on, and the uterus not becoming open and exposed to the effects of the air, would prevent the fetus from decomposing, hence there would be no discharge. In such cases, the fetus often undergoes a process of mummification, and little but the skeleton eventually remains. Cows which have met with a mishap of that description, seldom, if ever, breed again. Usually they do not come into season, or "heat," and are therefore useless as stock animals. Spontaneous expulsion of the fetal remains have been noted in some cases after a lapse of many months; but this is of rare occurrence, though I may mention one case which proved an exception. A farmer had a cow that should have calved in March; in July he observed a discharge, and at once gave the cow a cleansing drink, composed of 2 oz. of diapente, 2 oz. of cummin seed, 2 oz. of sulphur, slowly boiled in 3 pints of ale. In an hour's time the cow discharged a mummified fetus, and in due course she came into season and has since bred regularly. In case a cow does not exhibit a desire for the bull, our advice should be, fatten her for the butcher.

As an effect of depression in English agriculture it is said that not less than 11,000 acres of land in one division of the County of Staffordshire is tenantless.



## The Dairy.

### Cream Gathering.

BY L. B. ARNOLD.

The practice of gathering cream instead of milk has become quite common in some sections of the Western States, and has been the subject of considerable discussion, just as all innovations upon old customs usually have been. The system has its points of excellence and its defects. It has special advantages in a sparsely settled country, because it allows of a much wider range of transportation than milk. When carried in the vessel in common use, milk cannot be carried far, nor much agitated, without becoming affected to the injury of the butter made from it. If long exposed to the temperature of summer air, it sours and the separation of its cream becomes impossible. If it becomes far advanced toward souring, but is not actually acid, it will be liable to become so before all of the cream can be separated, and loss will ensue. Then, again, if much agitated on the way, it will become churned to such an extent as to injure the butter by giving it a greasy texture, if it does not actually produce butter in the carrying can. Further, cream rises best and most perfectly while the milk is fresh and new. To take the benefit of this peculiarity it is necessary to get the milk to the creamery without much delay. This necessitates short routes and carrying twice a day. Cream, on the other hand, when once separated, can be carried long distances with comparative safety. If it sours it will not be spoiled for butter-making. Souring is thought to be an advantage by some. The writer does not share in this opinion, but many people hold it tenaciously. Neither will it be spoiled if it becomes partially churned on the way. But premature churning is easily avoided in the case of cream, by having the carrying cans small at the top and then filled exactly full. In this way churning while on the road can be effectually prevented, even on very long journeys.

The cost of drawing cream is but one-tenth that of drawing milk, for, in the first place, only one-fifth of the milk is taken as cream, and then it is moved but once a day instead of twice, besides a great decrease in travel and investment in teams. Taking the average routes, it costs one and one-fourth cents a pound on butter for drawing the milk. For drawing cream over the same route, it would cost one and one-fourth mill. But in drawing cream so much longer routes are taken than for milk, that two mills to the pound of butter will come nearer to the average cost.

About the quality of butter produced there is a difference of opinion. Some hold that it is equally good in both cases. Others, that butter from gathered cream is not as good as from cream raised at the factory. No one claims that the former is any better. Mr. Simpson, a dealer in Boston, who runs a dozen or more creameries in Iowa, finds the butter made from gathered cream not so good as that made from gathered milk. There are some reasons for anticipating that it would not be quite so good. Cream can be raised on the farm just as well as at a creamery, and just as good butter can be, and is, made at farms as at creameries, but in practice such is not the rule. Farms lack refrigeration, and it is difficult to procure it without considerable cost. Creameries can supply it cheaply. As cream is estimated by the inch, the milk must be set deep to get depth enough to the cream to estimate it with approximate accuracy. When milk is set deep it needs to be cooled or it will sour too soon for the cream to rise well, and it will get off flavor and effect the butter. This is one source of inferiority in butter from gathered cream. The practice of covering the milk cans air-tight

while the cream is rising is another source. When fresh milk is left to itself at ordinary temperatures, the changes which are all the time going on within it cause the development of a peculiar odor whose formation varies with the temperature—the higher the temperature, within certain limits, the faster it forms, and the lower the temperature the slower it forms till it ceases entirely. If the milk is uncovered, the odor escapes as fast as it is formed, and does no harm and is not noticed. But if the milk is closely covered, it accumulates in and above the milk, but mostly in the cream, and hence finds its way into the butter to modify flavor, and texture, and keeping, unfavorably. If milk as soon set, could be quickly cooled so low as to greatly check the formation of odor, there would be but little objection to close covering. But, unfortunately, few farms afford facilities for such refrigeration, and hence the tendency from close covering is generally to depress quality. If, on the other hand, it is left open, there is a constant liability from its being exposed in so many places, to infection from bad air from without, and to injury from thunder storms from which it is free when covered air-tight.

The great point in gathering cream only lies in saving the transportation of milk and leaving the skim-milk in the hands of the producer. It cannot be successfully urged as a means for improving butter equal to that afforded by creameries. That the system of gathering cream is highly advantageous where milk producers are too widely separated to allow of gathering the milk, is beyond question. But where milk can be collected, it is a question to be balanced in the minds of all concerned, whether a reduction in quality is, or is not, more than equalled by the reduction in cost.

### Dr. Voelcker on Butter.

In his talks at the Royal Show Yard, Derby, England, Dr. Voelcker, the very eminent authority, said that England ought to be more nearly self-supporting in the matter of butter, and might be, if her dairymen would learn how to make the choice butter now brought from Holstein, Denmark and America. Some of his points for good butter making are added: "My belief is that the first quality of butter is produced from pasture which contains a great variety of herbs, some of which might even be ranked as weeds. The question is: Can ordinary pasture produce first quality butter? and to that question I answer, 'Decidedly, if you take proper precautions to prevent the cream turning sour before it is churned.' This sourness, let me repeat, is the great hindrance in making high class butter. Many persons deem this a small matter, and unconsciously allow the cream to get somewhat sour before making butter; but if you desire to produce good, sweet, keeping butter, you must churn cream as sweet as possible. As to the question of shallow or deep pans for 'setting' for cream, I am an advocate for the use of deep ones. After being filled with milk, these pans should be placed in a vessel containing water—ordinary pump water answers well—for twelve hours; or, if the milk is extra warm a little ice may be used, and this would result in a large proportion of cream rising. In order to prevent rancidity it is very important that the cream should be made to prevent the casein from turning. Although my profession is that of a chemist, I would impress upon you that the less chemicals you use, or the less you attempt to meddle with chemical agencies in the separation of butter from cream, the better will be the result. It is a purely mechanical process. If you pour off the butter-milk as soon as the butter comes, you will have butter much more free from the cheesy or curdy envelope which originally encased it in the creamy globule. And you will never make first-rate butter unless you preserve a regular temperature in churning. The temperature should never rise above 60°; it should be rather below than otherwise."

### Dairy Farms—Their Fertility.

We trust no one will think we are opposed to science in agriculture. The fact is, we have taken our stand on the platform that science applied to agriculture is calculated to do as much good as when applied to any human affairs. Still, it is apparent that very much that goes by the name of scientific agriculture is little more than nonsense when tested by every-day experience.

We have now before us a learned treatise on the injurious effects of dairy farming; and the conclusion is reached that wherever much attention is given to milk and cheese production the land must inevitably deteriorate. In a milk dairy we are told that two-thirds of all the cow consumes is carried away from the land, never more to be returned thereto. What a fearful waste of mineral matter! And then we have a long sermon on the nature of casein and the other articles of its composition that has been carried away.

But what are the facts? There are no farms so rich, no soils so fertile, as those known as making up the milk dairies about large cities. There is no better way to bring up a poor farm than to establish a milk dairy on it. No matter how poor it may be at the start, it gets better every year; and if one has a farm to sell or to rent, to be able to say it is a milk dairy is one of the best advertisements. What then is the inference? No doubt, our friends are right when they say that selling milk carries away much mineral matter from the soil. But it is not true that the land becomes poorer for it. We fancy the soil is richer in mineral constituents than it gets credit for, or else that there is quite enough for all purposes returned to the soil in the regular manures of the barnyard which in good milk dairies always abound, and in consequence of which the farm-ground of a milk-dairy has so many fertilizing advantages.

### How to Keep Butter.

In the report of the Vermont Dairymen's Association Mr. X. A. Willard stated that he knew from actual experience that good butter put up after the following directions will keep in sound condition one year:—Use for a package a tub somewhat tapering, with heavy staves and heads provided at both ends, so as to make a package that will not leak. In packing the tub is turned on the small end, and a sack of cotton cloth is made to fit the tub, and into this the butter is packed until it reaches to within an inch of the groove for holding the upper head. A cloth is next laid upon the top of the butter and the edges of the sack brought over this and neatly pressed down; then the head is put in its place and the hoops driven home. The package is now turned upon the large end and the sack of butter drops down, leaving a space on the sides and top. Strong brine is then poured through a hole in the small end until it will float the butter. The hole is tightly corked, and the butter is pretty effectually excluded from the air. Where only a small quantity of butter is to be preserved, L. B. Arnold advises packing it in self-sealing fruit jars. By this plan a little brine is put into the jar, which is then packed not quite full of granulated butter. Some bleached muslin is laid over the butter, then the little space above filled with salt, and finally enough strong brine, made from butter salt, poured in to fill the can. Mr. Willard advises when packing roll butter in jars that the brine be made strong enough to bear an egg. To three gallons of this brine he suggests adding a quarter of a pound of white sugar and one tablespoonful of salt-petre. Boil the brine, and when it is cool strain carefully. Make the butter into rolls and wrap each roll separately in white muslin cloth. Pack the jar full, weight the butter down and submerge in brine.

In Thuringia and Saxony cheese is made from potatoes. The potatoes, after being boiled, are reduced to a pulp. To five pounds of this pulp are added one pound of sour milk and the necessary amount of salt. The whole is kneaded together and the mixture covered up and allowed to lie three or four days, according to the season. At the end of this time it is kneaded anew, and the cheeses are placed in little baskets, where the superfluous moisture escapes. They are then allowed to dry in the shade, and placed in layers in large vessels, where they must remain for fifteen days.

The state inspector of milk of New Jersey, one day, caused 8,000 quarts of adulterated milk to be emptied into the dock at Jersey City, and six milkmen were fined \$50 each for owning it.



## Garden and Orchard.

### Growing Trees from Seed.

BY HORTUS.

"Familiarity breeds contempt," is an old and well-worn saying; but nevertheless exceedingly true, and is particularly applicable to our subject, "Growing Trees from Seed." We know how familiar we all are who live in the country with the various kinds of trees that grace and adorn our roadsides, hill tops and forests, but how little, speaking in a general sense, is really known of how to propagate them. One reason of this ignorance arises from the abundance of young trees that can be procured self-grown from the forest for planting purposes, also the cheapness at which they can be procured from the nurseries. Every farmer should set apart an acre of land as a nursery. Here he could transplant seedlings, roots, shrubs, evergreens, and sow seeds of all kinds. All the system of arrangement being required consists in planting or sowing in rows, say four feet apart. This would give space enough for the largest trees to grow.

All varieties of the elm and maple ripen their seed in June. It should be gathered and sown at once, covering well and firming the soil. It usually grows right away, but sometimes remains dormant until the succeeding spring. This operation takes so little time and labor that it amounts to a shame not to take advantage of the time and do the work. There are always plenty of trees to procure seeds from, so that there is no excuse for not doing it. This remark applies to all the varieties of trees we may have occasion to mention. Next in order come fruit trees, or sowing the seed to raise stocks. The cherry, plum and peach are easily grown from the stone or pit, and the young plants or stocks raised therefrom, if not wanted to grow at home, can always be sold at good profit to neighboring nurserymen. When saving cherry stones the fruit should be thoroughly washed and the pulp bruised off. Mix the stones with sand and keep in cool, dark place for sowing in the fall or spring. We prefer to sow in fall, in narrow beds, either in drills or broadcast. In drills it comes easier to keep beds clean from weeds. Cover the seed an inch deep, and after all is finished, mulch the bed heavily with litter or old manure. These directions answer for the plum. Our native wild plum furnishes the best stock for budding or grafting the cultivated varieties of plums on, and generally command from \$8 to \$15 for 1,000 stocks. There is always a strong demand for them, and no one need be afraid of going to raise stocks for profit.

Peach stones are mixed with sand and kept in cellars, handy for cracking coming on to spring. Of course they will grow by sowing them in the fall, allowing the frost to part the stone, but this cannot always be relied on, and the surer method of cracking the stone by means of nut-crackers made for the purpose, is usually followed by nurserymen.

Apple seed can always be procured from cider mills; the pumace may be sown just as it is, thickly in drills, or it may be washed out and the seed separated. Good clean seed is worth \$4 per bushel, though sometimes, of course, the price varies according to supply and demand.

Hard-shelled nuts, such as the hickory, walnut and butternut, should be thrown in shallow pits, covering with leaves or old litter thinly, so that the frost may have full action on them. Sow thinly in rows in spring. Beech, chestnuts and oak acorns can be sown in the fall, covering well and mulching the soil. Nut trees can be easily grown by merely leaving the nuts in rows on top of good loose soil and placing the mulch on top. This is

just as nature does when the nuts fall to the ground, and the leaves covering them, they grow freely in the woods. To avoid tap-roots, transplant the young seedlings when they have attained a height of six inches. This may be done as surely and effectually as transplanting cabbage plants, observing the same method and choosing showery weather. The ash tree ripens its seed in the fall; it should be gathered then and sown as directed for other seeds. Frequently the seed will remain dormant in the soil one season and grow freely the next. A good plan is to bury the seeds of the white ash, nuts, cherry and plum pits for one year; put them in snug boxes, mix with sand and bury them fully three feet deep, placing some stakes to mark the spot till the succeeding season should arrive.

Mountain ash grows freely from seed, and the foregoing directions of bruising and washing the seed are to be followed. It is a safe rule for the amateur to sow all tree seeds in the fall and to follow these general directions. Select a loamy soil inclining to sand, dry and partially shaded, or in some place where it will have alternate shade and sun. Make drills the breadth of the hoe and two inches deep, varying the depth according to the size of the seed; the larger it is the deeper the drill, and *vice versa*. Sow the seed evenly and thinly if fresh and good; if doubtful, sow thickly. Cover evenly and tramp the soil with the feet, and over all place a good coating of long litter, leaves or any medium that can be raked off easily when the seeds show signs of coming through the soil.

[We do not think that every farmer should have an acre for tree planting; he can often purchase trees at a moderate figure. In distant localities, such as Manitoba, the advice given can however be followed with advantage.]

### Peaches in the County of Huron, Ont.

Mr. A. McD. Allan, of Goderich, one of the directors of the Ontario Fruit Growers' Association, and a most competent authority on all horticultural matters, writes as follows:—"A clipping from the *Montreal Witness* was sent to me the other day, in which you reply to a Huron County reader that peaches can probably only be grown in the lake region, a district of limited extent. I fancy I know the counties of Huron, Bruce and Grey, every foot, as to capabilities for fruit growing, &c., as these compose my district as a director in the F. G. A., and I can assure you there is no better peach-growing district than Huron County, especially the light soils in this vicinity. Taken as a whole, for general fruits, Huron stands high." I hope the farmers in the county of Huron will make a note of this, and act accordingly.

### Flowers in Winter.

In the first place, in making a window winter garden, we select a window having a southern exposure; if that is not attainable, then get an east or west exposure. Then, take paste and strips of paper or, better, muslin, and carefully cover up every crack where Jack Frost would be likely to obtain an entrance. On very cold nights newspapers folded together thickly can be put on the window panes inside. There are many different ways of fitting up the interior of the garden, but for most people I would recommend a stand mounted on casters so that it can be brought nearer to the fire in real cold nights. The stand may be an old table or made of boards, but in whatever form, let there be sand strewn over the surface for the pots to stand on. Plants in the house suffer so much from dry air, that it is the reason I suggest the sand, because it is constantly giving off dampness. If it is not convenient to have damp sand, water may be evaporated on the stove; it is little difference how the damp air is secured, so you get it. Most window plants will flourish in a temperature of 75 degrees by day; 15 to 20 degrees less at night. Give air at every opportunity when the weather will admit. Do not be afraid to give them light. Fuchsias and rex begonias are partial to the shade, but they can be put among other plants. There are so many win-

ter-blooming plants it would be impossible to describe them all here. Let it suffice for me to name a few: There are roses, carnations, heliotropes, begonias, libonias, geraniums, lantanas, callas; and so I might go on and name ever so many.

### The Orchard and Garden for February.

The orchards in many of the older parts of the country are sad examples of neglect and robbery. From the time the trees were set, the land devoted to the orchard has been called upon to produce, each year, a full crop of grain or grass. Under this treatment the trees have made only a stunted growth, and the crop of fruit has usually been small. With such an orchard on his hands the more enterprising farmer asks: How renovate and make the old trees pay? Frequently the work of neglect and robbery has gone too far, and the only way to establish a profitable orchard is to cut down the old trees and start anew. An orchard may not do well for various reasons. Sometimes the land needs draining, and the putting down of a few rows of tile will be all that is necessary. The soil may be either originally poor, or made so by excessive cropping, and the trees are suffering from partial starvation. The great want then is food, which can be supplied by applying manure. If the orchard is in sod—and such orchards frequently are—spread a heavy coat of manure upon the surface and turn it under with a plow. After the sod has rotted plow again and spread ashes or lime upon the soil. The trouble with the unproductive orchard may be entirely above ground. The trunks and branches are frequently covered with old bark, upon which mosses and lichens thrive in abundance, and hidden beneath them the eggs and chrysalids of various destructive insects. The trees thus infested should be carefully scraped by using a short-handled hoe, and after removing the loose bark, etc., wash the trunk and branches with a strong solution of home-made soft soap, leaving the rains of spring to do the rest. It will generally be necessary to do some pruning, which will be determined by the condition of each tree. Endeavor to have an open top, that there may be an abundance of light and air. The cutting away of the larger branches may be done at any time towards the close of winter. Paint all wounds thus made. Those who intend to set new apple orchards this spring should do the work of selecting the varieties now, and order the trees early. A dozen of the best sorts; two early, four autumn, and only six winter kinds are sufficient. The list will be governed somewhat by individual taste, and whether the fruit is entirely for home use or to be sold. The following may aid those about to make a selection. Early: Red Astrachan, Early Harvest, Golden Sweet. Autumn: Maiden's Blush, Gravenstein, Porter, Duchess of Oldenburg. Winter: Rhode Island Greening, Red Canada, Golden Russet, Ben Davis, Northern Spy. By all means purchase of reliable nurserymen, in order to be sure of good stock true to name. It is best to buy near at home and avoid the dangers of long transportation. Should the trees be frozen when they arrive, set them in a cool place to thaw slowly.—[American Agriculturist.]

### Wash For Fruit Trees.

The object in applying a wash to trees is not so much to remove the rough and scaly outer bark as to destroy the parasitic plants and insects which adhere to the surface of the bark and sap the vitality of the tree by a constant drain upon the circulating current. One form of wash is made by adding one pound of whale oil soap to three gallons of warm water, stirring well and applying with a stiff broom or brush. The trunk should be rubbed thoroughly and hard, to remove as much as possible of loose bark, so that the liquid may reach every part of the surface. Another good wash is a weak lye from wood ashes. A third wash is made by adding two quarts of soft water to one gallon of common soft soap. Place these in a vessel over the fire, and when warm the soap and water are readily combined by stirring, and should be applied in the same manner as the whale oil application. The best results are obtained by washing the tree about three times during the season, applying the first in March or April, the second in June, and the last in August. The insects, as well as moss, will be effectually removed, leaving the bark in a fine, healthy condition.



### Root Pruning.

The experiments were made on the apple and pear. A vigorous apple tree, eight or ten years old, which had scarcely made any fruit buds, has done best when about half the roots were cut in one season, and half three years later, by going half way around on opposite sides in one year and finishing at the next pruning—working two feet underneath to sever downward roots. It has always answered well also to cut from such trees all the larger and longer roots about two and a-half feet from the stem, leaving the smaller and weaker ones longer, and going half way around, as already stated. The operation was repeated three or four years later by extending the cut circle a foot or two further away from the tree. By this operation unproductive fruit trees became thickly studded with fruit spurs, and afterwards bore profusely. This shortening of the roots has been continued in these experiments for twenty years with much success, the circle of roots remaining greatly circumscribed. The best time for the work has been found to be in the latter part of August and beginning of September, when growth has nearly ceased, and while the leaves are yet on the trees, causing greater increase of bloom buds the following year than when performed after the leaves have fallen.—[London Garden.

### Horse-Radish.

Market gardeners near New York raise horse-radish as a second crop by planting it between rows of early cabbages, beets, cauliflower, etc., so that after these crops are removed the horse-radish occupies the entire ground. In this case the sets are planted two feet one way and eighteen inches the other, requiring about fifteen thousand per acre. In field culture more room may be given, making the rows three feet apart and planting the sets eighteen inches apart, requiring about ten thousand sets per acre. After the rows are marked out, holes are made at the proper distances with pointed sticks, the roots dropped in these and covered so as to be about two inches below the surface. During the first months the ground is well cultivated and kept free from weeds; during the latter part of the season the tops and leaves grow so rapidly and spread so much, that cultivation becomes unnecessary. Horse-radish, to do its best, requires a deep, mellow soil and an almost unlimited amount of manure.

### Pruning Grape Vines—The Kniffin System.

The "Kniffin" system, now so generally practiced in the Hudson river grape region, is the easiest, simplest and cheapest of any I have yet seen, and has become so popular there that hundreds and thousands of acres have been changed from the "Fuller" methods to this.

Two wires only are used, three and a half and six feet from the ground respectively. Each vine has four arms, eighteen to twenty inches long, or about five buds on each, two arms on each wire, which arms are renewed every year by removing each arm up to the shoot nearest the trunk of the vine, cutting these off to five buds, and tying them down in place of the arms removed.

A vine thus pruned, resembles somewhat two T's, one above the other. The buds from these arms are allowed to grow and care for themselves generally, and, with a little labor and attention—by stopping the laterals at one leaf and removing the fruit from the bud intended for next year's arm, if it should prove too weak to carry it and make sufficient growth at the same time—they can almost invariably be depended on. Aside from the simplicity, saving of labor and economy of wire in the trellis, it has the advantage that the lowest fruit is far enough from the ground to keep it clean, and with moderate stooping one can pass from one trellis to another without being compelled to go to the end of one, as is the case when four or more wires are used. The summer pruning consists of nothing more than clipping off the ends of some shoots that may chance to grow too rampant.

This, like any other system, is subject to modifications, one of which is to have but two arms to the vine, each three feet long, and have each alternate vine take the upper wire, the others the lower one.

It is frequently recommended and sometimes practiced by those who know no better, to cut away the vines or remove the leaves to let in the sunshine to ripen the fruit. I hope no reader will

listen to or practice any such nonsense as that. The effect of the sunshine on the fruit is through the leaves and roots, by warming the ground. The fruit could better dispense with the sunshine than with the leaves, as they bear the same relation to the fruit that our lungs do to the body.—[Fruit Recorder.

### Farmers' Gardens.

Although farmers in general have not much time to spare for gardening, I cannot but think that many of them might find it both pleasant and profitable to cultivate a few acres as a sort of experimental ground in connection with their farms. To beginners in this line a few hints may be serviceable.—I aim at simplicity.

The rectangular form is best, and, for convenience in cropping, the length should be very much greater than the breadth. Prepare the ground in the most thorough manner, and arrange it so that all crops that occupy the land a year or more shall be together—say at one end of the lot. This may include flowers, small fruits, rhubarb, asparagus, herbs, &c. The remainder of the garden should get one good general plowing and manuring each spring.

Division second should include crops that occupy the land during the summer months, such as beets, parsnips, salsify, tomatoes, and many other things that need not here be mentioned.

Division third should be reserved for succession crops, peas, beans, lettuce &c., followed by cabbage, cauliflower, celery, and the like. It must necessarily be plowed twice a year, and an opportunity is then given for a second manuring, also for experiments in special manuring, seed raising, &c. The crops on the second and third divisions should change places annually; those on the first may remain several years. It is presumed that the land is of nearly uniform quality throughout.

No crops that are usually raised on the farm should cumber the garden; everything should be sown or planted in rows; the rows for fine seed should be laid off with a marker, and those for peas and beans with a skeleton plow. The rows should never, in any case, be less than two feet apart, as the farmer has no time to hand-hoe. He must use the cultivator. A small corner should be reserved for seed beds of cabbage, celery, &c.; but perhaps it would be more advisable to purchase plants from those who make it their business to raise them.

The above is a mere outline, but it can be filled up and enriched to any extent. The farmer who sighs after "a little farm well tilled" would be all the better confirmed in his views and aims by first proving the possibilities of a single acre.

The celery stored in my cellar is doing well; will refer to it again next month. Meantime I will say that the simplicity of growing and blanching the article by this new arrangement is likely to introduce it to farmers' and cottagers' gardens where hitherto unknown.

Out-door gardening is at a stand still, but the hot-bed season is at hand, which serves to keep us in mind that spring is approaching.

A veteran gardener, not far off, has no confidence in destroying the cabbage worm by means of hot water on an extensive scale on account of the difficulty of applying it at a uniform and proper temperature. Timely hand-picking would be his remedy. What say our brother farmers and gardeners on this momentous subject? For my part I anticipate better crops, and therefore less danger from the worm, and in the absence of a better remedy will trust to liming and hand-picking.

### Experience in Fruit Tree Planting.

T. H. F., of Cornwallis, N. S., writes in the W. Chronicle of his experience in planting trees: "Twenty-eight years ago he commenced with 25 foreign apple trees, which cost him 50 cts each. They were very fine trees, and he planted them with great care and tended them carefully for 14 years, when he found only ten were living; yet he had bought within that time about one hundred of foreign trees, while few of them proved true to their labels. Nearly all of them had to be re-grafted. He then commenced planting trees from home nurseries, and none can show a more vigorous or better looking lot of trees within fifty miles of him. I am convinced that they who buy foreign trees will pay for many more than will ever give them fruit." Canadian raised trees for Canadian orchards is now his motto.

### The Care of Greenhouses.

The chief points to be carefully watched in running glass structures, are the temperature of the air and of the soil, and the moisture of the same. The temperature of the soil will usually take care of itself when that of the air is right, excepting with very tender seeds and cuttings of tropical plants, which require a little bottom heat to bring them along well. The moisture of the soil needs attention to keep it moist enough, and not to make it sodden by too frequent sprinkling of the surface. When watering, water freely, so as to wet well down to the roots; this takes a great deal of water, as a little observation will show by stirring the soil a short time after watering; the surface may appear quite wet, and yet an inch or so below it may be dry as dust. If the surface becomes sodden by frequent watering, it should be stirred up with some suitable tool, or by the fingers, to make it loose, and give the air a chance to penetrate the soil.

The moisture of the air, or atmospheric humidity, is a point that needs more attention than it generally receives. In a greenhouse or hot-bed it is extremely variable, and hence comes much of the difficulty in growing good lettuce or other vegetation with very tender foliage. When the glass is kept close and the sky is cloudy, the air of the greenhouse is saturated with moisture; foliage in such damp air grows very tender and soft; after a few days of such weather the sky clears off with a sharp frosty gale from the northwest, we find it necessary to air freely, in order to keep the temperature down to the proper point during the middle of the day, and the tender leaves are suddenly exposed to a current of air capable of absorbing rapidly large quantities of water; the tender leaves wilt, and are often dried up at the edges, causing what lettuce growers call "burnt lettuce." As with other diseases, "an ounce of preventative is better than a pound of cure." Lettuce once burnt is almost worthless; but careful attention to airing a little every day, even in dark, cloudy weather, and moistening the air by wetting, in very bright days, the greenhouse, will do a good deal towards preventing this most destructive disease.

### Protection of House Plants.

A lady correspondent writing on the subject of the winter treatment of house plants, states that "an approved plan for protecting plants at night is to place them, before the room has become cool, in a compact form on the floor or the table, and then encircle them with stiff paper, or with newspapers pasted together, of sufficient width to enclose the plants, making a top of the same material, or covering with carpets and blankets, also laying cloths around the lower edge of the paper. Shielded in this way, the plants will remain unharmed even when water freezes in the room. Plants should not have as much heat at night as during the day, from ten to twenty degrees being the proper difference in temperature. Although ventilation is very desirable, plants should never be aired in winter by permitting a draft of air to blow on them or over them, even during mild days."

GLADIOLI.—Most of the gladioli originated at the Cape of Good Hope, though two of the oldest varieties are natives of the south of Europe, and a few species came from Natal. The English grower of the gladiolus cultivates eight acres in gladioli, raising annually over 200,000 seedlings.

In cold weather and in cool rooms people are apt to lose their house-plants from excessive use of water. Never water plants unless they need water. When the soil on the top of the pot seems dry you may safely water the plant.

The hardy Nymphaeas—white water lilies—which often grow at a distance from the shore, have a special provision for floating the seed, which is heavier than water, to where it can safely germinate. Each seed has a transparent sac—its aril distended—which contains air enough and is strong enough to float it for many hours. A group of such seeds is said to resemble frog-spawn. This is something for young observers to look for in the autumn, show to their teachers and friends at home, and store in mind as a silent worship of the all-wise and good Designer.



**Pruning.**

ITS NATURE AND ITS EFFECTS.  
BY E. COTT.

Pruning is mainly of two kinds, viz., root pruning and branch pruning, with respect to parts, or winter and summer pruning with respect to time. It is, however, quite evident, for obvious reasons, that the great burden of pruning, both as to root and branch, must be done in a time quite free from any impediments from winter cold or frost. The state of defoliation, therefore, is generally what is most readily understood by winter treatment in pruning. To prune in the winter for wood and in the summer for fruit, is an old saying that has gained currency as to its effects, and generally there is much practical truth in its observance. According to the adopted division of our subject, then, we have first,

**ROOT PRUNING.**

This mode of pruning consists, theoretically, in contracting or circumscribing the area of root growth in the soil. The philosophy of the operation is that whatever threatens to endanger the life of the plant will hasten to promote fruitfulness, and in modified growth directs the energies of the plants to fruitfulness. Practically, this is done in two ways, but the resulting effects of both ways are the same. First, by digging to a certain depth around the tree and at a certain diameter, having the tree for a centre. The practical effect of this is to cut off the fine fibrous or feeding roots and deprive the tree of a very large part of its accustomed nourishment, and this threatens to endanger its life, and the result will be plentiful fruitfulness. Second, by taking the tree up and removing it to another place the result will be the same. The only material difficulty with these operations is that they must in many cases be persistently repeated, but in many cases the habit of fruitfulness being properly commenced it may in all probability continue. These kinds of pruning, however, are seldom resorted to except in extreme cases, and only for once or twice.

But we are to notice, secondly,

**BRANCH PRUNING.**

This is by far the most popular, the most practical and common method of pruning. Theoretically, it consists in lopping off many of the buds and some of the branches in order to throw greater force of vegetable life into those that are left, and the implements used in this work may be of several kinds to suit the convenience of the operator, as knife, axe, saw or chisel. As has been already noticed, branch pruning may result differently, according as it is done when the leaves are on or when they are off, or in other words, in summer or winter; as the one is said to be used for increased fruitfulness, and the other for increased luxuriance or wood growth. Practically, pruning in summer is a very simple operation, but requires close observance and good judgment. It consists in going over the trees or the vines (this is very much used in grape vines), and with the thumb and forefinger pinching out the tip of the young growth. This pruning is sometimes called pinching from this circumstance. By this means trees may be modelled and the growth directed in a most surprising manner. Pruning in the winter, practically, is much more laborious and complicated, as we have to do with matured buds and branches. It consists in cutting off or out such buds or branches as are deemed unnecessary or superfluous for the proper development of the tree, according to our notions or the plant we are working by. For this kind of pruning, it is a good and very safe rule to examine the tree or vines annually, and properly directing the growth to suit our purposes so that we may never have to cut out very large branches or very many buds at any one time. The disastrous effect on the tree is thus reduced to a minimum and is not so marked as practical slaughtering by cutting off large heavy branches at once. The *minutiae* of the business must be learned by practical contact and under the direction of a good master. The effects of pruning should be in line with the objects sought, and these are many and various according to the circumstances of the operator. For practical purposes,

**THE OBJECTS**

may be said to be in effect primarily twofold. 1st, to regulate or balance the growth; 2nd, to form and mature fruit spurs and buds. That is, by checking luxuriant wood growth and directing the energies of the tree or vine to the formation of fruit spurs and fruit buds, to be developed in other

seasons. But, secondarily, the objects of pruning may be, 1st, to change the size and outward form of the tree or vine. By this means, trees and vines can be totally changed from the natural instincts and habits of their natures, and towering trees be made low and open, spreading trees, dense, and the regardless clambering vine be made obedient and domestic. 2nd, to render more enduring of severity in cold climates. This is done only in the summer time, and the effect is to more perfectly ripen the wood growth, and render it hard and enduring against severe cold. 3rd, to change the bearing year. This pruning must be very severe, and done only in the summer time. By taking off all the prospective fruit and severely pruning or checking the wood growth, the bearing year may be changed to suit our convenience or profit. 4th, to render fruit producing or fruitful. This is best done in the summer, and is performed as previously described, by diverting the energies of the tree to the formation of fruit spurs and fruit buds. Root pruning is chiefly used for producing this much desired object. But 5th, and lastly, the object may be to develop and perfect higher standard of fruit. The results are gained by improving the samples by increased size or increased beauty of appearance, or increased flavor, or internal qualities, or each and all of these; the prices are better and the rewards are greater. If I may be allowed to thus generalize, I may say that this is the one absorbing effect that embraces all and each of the others, viz., to make the tree further our personal gains or rewards.

**THE OBJECTIONS**

to pruning may be hurriedly put 1st, all pruning is a direct attack upon the life of the plant and a thrust at nature. 2nd, it is an interference with natural production—the agent interfering with the architect to turn to his mercenary ends. 3rd, the energies of the plant spent and exhausted in restoring equilibrium and no definite progress made. 4th, the habit and life of the plant, if not in accord with our purposes, must be made so—an example of the weaker over-ruling the stronger. 5th, it requires the most constant watchfulness and careful attention, else by this very means we may frustrate the objects of our own purpose.

In answer to these objections, we may remark that the great object of planting and care for trees is to further our personal interests, and therefore many of the objections are not solid, for, 1st, we plant trees for ornamental purposes and must bring them within the prescribed limits of the highly cultured gardener's art; or, 2nd, we plant trees for fruit, and to secure our best interests, the most direct and certain path to fruitfulness must necessarily be taken. It will thus be distinctly appreciable that the arguments for pruning and the course of the pruner lie in a path midway between the objects or reasons for, and the said objections or reasons against. There is, however, one great argument not yet adduced, viz.: "our experience demonstrates its practical utility." This is the best of all arguments, and the one resorted to when all others fail. If human experience is seen to be in favor of a prescribed course, it matters little what may be said against it. The experimental argument is invariably decisive.

**Seasonable Hints.**

Flowers grown in pots often need re-potting while they are growing. This is an operation requiring much thought and care. As a rule there is more danger of a plant being in too large than too small a pot. It may not grow well in a small pot; the leaves may not be of as dark a green as when it has plenty of earth to grow in. The trouble with a large pot and a small plant is that the water does not always run away fast enough. When this is the case small mould grows, or, as gardeners say, the soil gets sour, and the young and tender points of the roots are rotted. The plant sickens and very often dies. It is safest, especially for those with no pretension to skill, not to re-pot unless the plant has a number of active roots, and to put it in a new pot not more than a half inch or an inch larger than before. The hole at the bottom of the pot should be carefully guarded so as to be sure it will not get choked. It is this which allows of the rapid escape of water, which is the great essential of successful plant culture. The soil for potting is usually one third of sand, and this is to enable the water to pass rapidly away. For nourishment nothing is better, if it can be had, than thoroughly decayed cow manure. Any kind of manure, if thoroughly decayed, is good for pot plants.

**Hot Beds.**

In reply to I. S. S., Mt. Vernon, Ont., we give the following:—

For all general purposes the last week in February or first in March is soon enough to turn over the manure of which the bed is intended to be composed. About all our stable doors is the material which is the best, viz., long stable manure; this should be shook over and piled into a conical heap, so as to avoid the snow covering it as much as possible; and if practicable, before it heats violently, it should be turned over again. This will insure a more regular heat in the bed, and what is of as much importance, the heat will last longer. A south-eastern aspect, sheltered from winds on the cold quarters, should be chosen for the hot bed, and if the ground is dry, we would recommend digging out the foundation about a foot in depth; this serves to confine the heat which our bleak winds are apt to dispel very rapidly where the bed is made entirely on the surface.

All being prepared, shake the manure loosely in with a fork, and over every layer of manure add one of leaves, until you get the bed of the desired depth. Avoid tramping on the manure, but beat it thoroughly down with the back of the fork as the bed progresses; and see that you construct it so that when settled it will be fully a foot higher at the back than in front. By thoroughly incorporating the leaves and manure, the heat will be milder and more genial, and will continue longer than if manure alone was used.

Hot bed sashes are generally made 6 ft. long by 3 ft. wide, and we should prefer glass say 6 inches wide or wider, as in the constant handling to which they must be subject, if the bars are wider apart it weakens the whole sash, and the consequence is much more glass is broken. The frame to receive the sashes should be, say 2½ ft. high at back and 1 ft. in front, and should sit on the bed so as to allow good 15 inches of manure clear outside it all around. This ledge will be found very useful should a cold snap of weather come when the seeds are just germinating, on which to pile up a fresh lining about the box.

When the whole is completed, an inch thick or so of earth should be spread evenly over the surface of the bed under the sash, to absorb the gases in a measure before putting in the full complement of soil. We have often seen hot beds completely spoiled by not attending to this particular. All the soil required had been thrown in before the rank heat had passed off, and consequently was so burned or impregnated with gross gases that the tender plants could not live in it.

The hot bed secured, cucumbers, tomatoes, peppers, egg plants, a little celery for early use, radishes, lettuce, annual flower seeds can be sown, dahlia and other roots put in to be started, and many other things by which we can not only get several weeks the start of those who have no hot beds, in such little things as can be matured in it, but we lay the foundation for some luxuries in the shape of early vegetables out of doors, weeks in advance of the time they could otherwise be produced.

Cold Frames.—A cold frame is simply a box without bottom, filled with rich, mellow earth. It should have a south-eastern aspect, the back of the frame higher than the front. Let laths be placed across the frame at convenient distances, so that the growing plants may be easily protected by covering them with a mat or with glazed canvass if necessary. A cold frame is very useful as a seed bed for many varieties of plants, and as a nursery bed into which young plants may be dibbled out from the hot bed to harden them for final transplanting.

**Delusions.**

Few men keep doing so much for horticulture as Mr. Peter Henderson does, by his shrewd, practical common sense. He may sometimes get wrong, but he is generally right, and always does good. In a recent paper on "Delusions," he shows up the notion that plants in sleeping rooms are injurious; that money is to be made from the business without practical knowledge of the business; that there is much special virtue in special manures for special crops; that plants take more nitrogen from insects than they can get from the atmosphere in the ordinary way; that the production of variegated leaves by inoculation is a proof of the truth of graft hybridism, and some other notions of similar character. Let us hope that Mr. Henderson will keep at it. There is plenty of such work so to be done yet.



## The Apiary.

### Introducing Queens.

The method that will allow the new queen to be introduced the soonest after the old one is removed, is the most desirable. Quinby says: "In introducing queens, four points are necessary to be observed.

1st. That the hive contains no queen or queen cells.

2nd. That the bees are all induced to fill themselves with honey.

3rd. That the queen is pervaded with the same scent as the bees to which she is introduced.

4th. That she be introduced in such a manner, that she will not be hastily met as an intruder."

If we have any queens we wish to remove, and have laying queens on hand to introduce, we proceed as follows:

Open the hive containing the queen you wish to remove and draw out one of the frames, looking it over carefully for the old queen, shake the most of the bees off the comb into the chamber of the hive, or a box for that purpose, placed a little in front of the hive; now proceed with the remaining frames as with the first, and as soon as the old queen is found, destroy or cage her. By this time you should have bees enough in the box for a fair sized swarm. After taking some honey in a tablespoon from the hive, close it up again; now roll the new queen in this honey, until she is thoroughly daubed, shake the bees in the box together, and drop the queen among them. The bees will commence cleaning the honey from the queen, when they should be turned out upon a board in front of the hive, so that they may easily enter the hive, and all is done. You may safely introduce a queen and the bees did not know it. The reader will plainly see the advantage derived from the brood rearing, time and work, by following this method.

To introduce a queen into a hive that has been queenless for several days, we would first give the bees a good smoking, also the new queen; open the hive and proceed as above, only destroying all queen cells as you proceed; as soon as the hive has been closed give the remaining bees more smoke and watch the proceedings of the bees and queen in the box. When the bees have partially cleaned off the queen, give all another smoking and turn the bees out in front of the hive as stated before.

To introduce a virgin queen into a hive that has been queenless for several days, take a good sized queen cell, cut it open on one side, by cutting lengthwise of the cell with a sharp knife. Place the queen in the cell, close it gently, using great care not to harm the queen, and seal it up with a thin piece of wax, slightly warmed, so that it will stick; insert it in the hive with as little confusion to the bees as possible.

In practicing the last named methods, we may lose now and then a queen, but we consider the loss small, compared with the loss of time in brood rearing, as with the plan of introducing by caging.

We have also introduced many queens that are just hatching, by laying the cell at the entrance of the hive and allowing the queen to crawl out and enter the hive at her will, and we do not remember losing a single queen; but in such instances, they were introduced into queenless colonies, that were composed mostly of young bees.

G. W. H.

### Honey.

Honey is the first sweet known, and is composed partly of natural grape sugar, contains some pollen, and is stored by the bees with but little, if any, alteration. The value of sugar as an article of food is very great; it assists in the production of heat and fat, but does not enter into the solids of the body. When starch is taken into the body, it is largely converted into sugar. Sugar is very digestible. The odoriferous qualities of honey are an important element in it; they are generally valuable, though sometimes injurious; such cases are generally due to an idiosyncrasy in the person. Cane sugar is the purest form of sugar. Honey is very valuable in some cases of sickness. If honey is adulterated with glucose, the fraud may be detected by the use of a warm solution of barium, which, if mixed with it, will cause a milky appearance. The honey should be thinned with water, which should be perfectly pure; if there is lime in it, the effect will be the same, although the honey may be pure.

### Honey Wine.

Mr. Quinby, says the *Bee-Keepers' Magazine*, "has succeeded in producing a wine from pure honey rivalling, if not excelling, in all desirable qualities the imported wines. This wine has been submitted to experts, druggists, physicians and wholesale importers, and all, so far as we know, have expressed themselves as surprised and gratified, and predict that this discovery is destined to work a complete revolution in the bee-business, greatly in favor of the honey producer, as it turns much of his produce into an entirely different substance, and hence necessitates a larger supply."

### Agricultural.

#### Roots and Cereals for Feeding.

The subject which I am about to discuss is in no way a small one for any person who has had an experience in beef making to dwell upon, and since the farmers of Canada are going more into the raising and fattening of cattle for both the home and foreign markets this is an important question to consider, for in time a large portion of the farming community is going to depend upon this branch of farming as one of its chief sources of money-making, and as it is just now that the farmers are beginning to see it, it is very essential that they should know which will yield the most profitable returns—roots or cereals?

Now the answering of this question depends upon two conditions.—First, whether you want to make your profit by the direct returns of your cattle, or, secondly, whether by increasing the value of your land. We shall discuss the former first.

When the analysis of roots is considered, we find that they do not contain more than 10 per cent. of flesh and fat, the remainder being water and other liquid ingredients; while on the other hand, if we take the cereals (by these I mean peas, oats, corn and barley), we find that they contain 80 per cent. of real flesh making material, and by experimenting it has been found that we can generally calculate on getting one pound of flesh from any food that has 10 parts of dry substances in its composition. Thus, 100 pounds of turnips or mangolds, having as much as 90 parts of water, will only give a pound (and not always) of flesh; while the same amount of cereals, only having 13 per cent. of water, will give 10 pounds of flesh; evidently showing that the cereals rank the highest in flesh making properties.

But what does this mean with our Canadian farmers—all grain and no roots? No, not by any means. Roots are as necessarily essential in the feeding and fattening of cattle as it is itself to mixed farming.

Supposing we take an acre of grain and an acre of roots, both first-class crops, and grown on the same kind of land, the roots will yield 700 bushels per acre, and we may average a crop of cereals at 35 bushels per acre. But then some may say that this is a rather high estimation for cereals. But 700 bushels of roots to the acre is also a good crop, and if you take the yield per acre of each of the cereals, add them together, and take the mean, you will find that I am not far astray. Then, since we know that from any food having 10 parts of dry substances in it we can obtain one pound of flesh from every 100 pounds of the material; therefore, the 700 bushels of roots, or 42,000 pounds, would put on 210 pounds of flesh, and the 35 bushels of cereals, or 2,100 pounds, would put on 210 pounds of flesh, as it only takes 10 pounds of cereals to put on one of flesh (averaging a bushel of each at 60 pounds). Thus from this we see that more flesh can be obtained from one acre of roots than there can from one acre of cereals; but then it must be remembered that we are not considering the value of the straw obtained from a cereal crop and the amount of roots that generally rot during the winter and spring, which would in both cases be in favor of the cereals. But then there is another point we have to consider in connection with this, and that is, How much flesh making material can an ordinary sized fattening animal consume in a day?

Now an animal of this stamp could consume two bushels, or 120 pounds, of roots per day, and there being one-tenth of that flesh making material, would give 12 pounds. Another animal of equal qualities could consume three gallons of meal, or that means 20½ pounds of flesh making material. But any person that has had any experience in the feeding of roots will know that if they are fed alone the animal to which they are given is apt to

scour and consequently not put on any flesh; and, moreover, it takes the larger part of the 12 pounds of flesh making material to keep up the working of the animal's system, and leave but very little to store away to increase the individual's weight; while with the cereals we have 20½ pounds of flesh making material, of which the larger portion goes to form flesh.

Now in discussing this question manure must also be considered.

When the use of farm-yard manure is considered as a fertilizer its value is unknown, and some farmers venture to say that it is the main source of profit in this most important branch of farming. It is a well-known fact that there is a larger quantity obtained from an acre of roots than there is from an acre of cereals, but while the roots are ahead in quantity they lack in quality, but not enough when the two things are compared to bring them down on equal footing with the cereals, for we could not expect the cereals to take the lead in this owing to there being less bulk per acre and also a larger amount of solid substance in them, most of which goes to increase the animal's weight and to keep the system in working order.

It is well known that the cultivation of roots is necessary in all good and successful farming—that is in districts where you can reckon on a fair crop. But at the same time I would venture to say that it is carried in some cases to extremes. By this I mean farmers that grow too many according to the amount of stock they have to consume them, and also as regards the condition of their farms. I have known some to put one-fifth of their land under root cropping for feeding purposes, and then only having a small number of animals, according to the proportion of the roots, to consume them, and probably feed during the winter a bushel and a-half to two bushels per day to an animal. Well, now, this on heavy land, where a proper rotation of cropping is adopted, in my estimation, is not essentially needed, for when we consider that roots are not really flesh makers the amount of labor required to grow them and the trouble in storing them, also the large number lost by rotting every season, they do not prove such a profitable crop as many make them out to be, and it would not be advisable for any farmer that has a heavy farm and in good condition to put too large a portion of it under a root crop unless he fed a large amount of stock every winter, nor would it be advisable for a farmer whose land was in an exhausted condition to put too small a portion of it under roots, for on a farm of this condition summer fallowing and cultivating roots is one of the best modes to clean and increase the value of it.

But a question may here present itself to the mind of the reader—Which kind of roots are the most profitable to grow?

The principal kinds grown in Canada are turnips, carrots and mangolds, but a great deal more turnips than mangolds, which is a bad mistake, for experimenting shows that mangolds contain more nourishment, yield as well per acre, keep longer, and are better for spring feeding (especially for cows, also ewes after lambing), than turnips, and are not so liable to be eaten off by the fly when first they make their appearance through the soil. The only disadvantage being that they are not safe to feed until two months after being taken out of the ground. And it might also be hinted, as I have touched upon this point, that salt as a fertilizer is very beneficial to their growth.

Now, before concluding, I will say that while roots have no great feeding properties in themselves, they increase the value of other hard foods when fed in connection with them, and on the other hand cereals containing a large amount of flesh making material seem to want something to feed with them to keep the animal in proper trim for fattening purposes, and this is the work which the roots perform.

I think I have now discussed a few of the most important points which go to show that stall feeding cannot be carried on with success without the aid of roots, either to the farm or the animals themselves; although the larger portion of the flesh is put on by the harder kinds of foods there is a certain amount of roots required to do it successfully.

W. E. P., Guelph.

Speaking of the monster roots with which British seedsmen still astonish the gazers at shows, the *Gardener's Chronicle* says: "The weight in these cases is mainly due to increased relative quantities of water which might be desirable in a melon or a cucumber, but which is not required when the product is intended for more substantial use."



**Good Returns.**

C. S., Mellville Cross, Cardwell Co., Ont., says: My White Elephant had 13 eyes. I split three of the eyes into 10 hills out of the three eyes. The other ten hills I planted one eye in a hill. They all grew and made a very strong growth. I had over 100 pounds of tubers from the 20 hills. The 10 hills from the three eyes grew as strong as the others and yielded as many potatoes. Some of them weighed over a pound each. I sowed the sorghum about the 10th of June; it only grew about three feet high, but branched a great deal. I do not think, however, it is of any use here, as our climate is too cold. We never grow corn here as a crop—only a little for boiling. The Washington Oats did not amount to anything. The asparagus grew well, but I cannot tell whether it will be any better than what we have at present, as it takes three years to grow before it is fit to use. The carnations and picotees have made a fine growth. The package of carnations was mixed with the Chinese Pinks; they came up about half carnations and half Chinese Pinks. I think that is the reason why some report the carnations as flowering this year. But the paper of Chinese Pink seed was the best of all. I took first prizes with them at all the leading exhibitions in this Province; first at the Industrial Exhibition at Toronto; first at the Provincial Exhibition, London; first at the Great Central Exhibition, Hamilton, and at three or four county shows.—[Rural New Yorker.]

**Farmers' Club at Syracuse.**

The Farmers' Club of Onondaga county, N. Y., which holds its weekly sessions at 10 a. m. each Saturday, is widely known for the intelligence and energy which have marked its proceedings. Having an opportunity for attending on a recent occasion, we are enabled to give a few brief memoranda of the discussions. About forty members were present at the time; we were informed that the attendance sometimes numbered as many as two hundred.

The principal subject for the day was the discussion of the question whether the soils of the county were wearing out. Mr. Edwards took the affirmative, and alluded to the fact that new lands needing nothing at first, required afterwards the continued addition of fertilizers to maintain their character. He said that all things were wearing out, that there were no standing still, and most of his remarks were of a general character, and not specially applicable to Onondaga county. Continents were formed by the wearing and disintegration of rocks, and the soils in turn were worn out by cultivation. In new countries manure was but little appreciated—he had seen the practice in Kansas of dumping manure into streams to get rid of it, but after a while all would be needed to supply the waste.

George Geddes had no sympathy with those newspaper writers who endeavored to make out that we were all going to the poor-house. He thought the members of the club then present were hardly a specimen of such destitution. He quoted in detail from the census reports, showing the increasing average crops per acre. He recommended the adoption of a new system of returns requiring assessors to make yearly reports of the crops, and at present in the absence of such returns superficial writers could more easily make out deterioration in the products of farms.

L. T. Hawley reported his experience on a field of ten acres, the first corn crop from which, after clearing out the stumps, bushes and other rubbish, was only three bushels per acre. Plowing deeper and giving continually good cultivation, the hay gradually increased, and the land now produces good crops. He thought much of the improvement came from gradually plowing deeper and turning up the natural elements of fertility.

W. W. Newman had observed that upland farms usually produced more the second decade than the first, and the third more than the second, and he thought the tenth decade would show a still greater improvement. New land produced straw; longer cultivated, it gave grain. He thought the farms of Onondaga county were gradually increasing in their average products, which is owing, at least in part, to the plow bringing up and mixing fertilizing elements.

George Geddes, in answer to an inquiry, remarked that a portion of his farm had not received any barn manure for seventy years, and the only fertilizers were clover and plaster. This land had a

bad reputation at first, but when the late J. Stanton Gould saw the grass growing on it some years ago, he said it was the biggest timothy he had ever seen.

Dr. Boynton spoke at some length, explaining the chemical operation of fertilizers. He had injured his pear trees by too heavy an application of stable manure. He had successfully applied ground bone and plaster to his young orchard of a thousand pear trees, and last year he sold \$300 worth of fruit from it, besides large numbers which were lost by premature decay.

Mr. Scott, of Clay, maintained that clover, plaster and good manure were quite sufficient to keep up the fertility of land, without resorting to the purchase of commercial fertilizers, and he urged the importance of saving all the manure of animals, liquid as well as solid, and preventing its washing away; and he particularly recommended winter spreading, and owners need not fear its washing away, as the same thawing that produced the water would thaw the surface of the soil and cause it to absorb the liquid. Well-conducted, diversified agriculture, with suitable rotation, would not carry off the mineral elements. Superphosphate, at \$35 per ton, he thought too high in price for farmers to apply largely. He had found an excellent preparation for wheat to consist of a crop of peas, fed to swine on the ground without gathering; and he recommended sheep husbandry as an important part of diversified farming.—[Correspondence Country Gentleman.]

**Wheat—Its Flouring Properties.**

IS EARLY CUTTING AN ERROR?

The following article from the American Miller is deserving the attention of every leading farmer in Canada; the subject would be a good one to bring up at the Farmers' Clubs. This journal is open for the views of any one that may hold different opinions on this subject. We admit that the straw is improved by early harvesting, and have been more favorable to early harvesting than we now are; the color of the grain may be improved by it, but we strongly favor the opinions set forth in the following extract:

"I am persuaded to place on file, with your permission, the result of an old miller's observations on the above-named subject—one whose hand was on the lighter screw years before the advocacy of early harvesting, when wheat was allowed to stand until fully ripe, and cut with the cradle. With our then modern mills we made more and a better using grade of flour from a given amount of wheat than we are doing to-day, by the new process, with all our milling facilities.

"This great change was caused by the advocates of early harvesting, and by the reaper. As evidence look at York State. Her flour once led the van in the world's markets, without word or comment, but immediately following the introduction of the reaper the first complaint ever offered came privately: 'Your flour works soft and sticky; what ails it?' Yet owing to the high standard of this flour in the English markets, it continued to sell year after year, though at a reduced price. This complaint became more emphatically expressed until Liverpool dealers became disgusted with it, and ordered their agents in New York to buy no more of the 'd—n doughy, sticky stuff.' This drove nine-tenths of the mill owners in the State to the wall.

"Again, six or seven years ago, we noticed in a Michigan paper an article taken from the Ohio Farmer, advising its patrons to harvest early. We also saw the following winter and spring Ohio and Michigan flour offered in the Boston market at \$6 per barrel, that ought to have brought \$7, and would, had it not worked soft and sticky. This complaint has always followed the advocacy of early harvesting, and always will. It is a natural consequence.

"Wheat in its last few days or even hours of ripening, undergoes a great change, as nature in her last efforts to perfect her work, expels the moisture from the berry. At the same time the berry absorbs the remaining glutinous matter from the straw, and granulation becomes perfect. The moment a stalk is cut this natural phenomenon of ripening ceases, and drying up ensues, which leaves a portion of the most valuable matter in the straw. Since the introduction of the reaper much wheat has been cut in an immature state, owing to the advocacy of early harvesting and the unevenness of ripening; and this wheat has been used as seed, to be again harvested in like condition, and thus served on until the berry has become

shrunken and deteriorated from the plumpness of a city alderman to that of a country parson. Thirty years ago, three-fourths to one and one-fourth bushels to the acre was called good seeding, producing a strong, broad-leaved healthy plant that was never known to winter-kill or run out, with good cultivation. Fully ripened wheat contains about 10½ to 11 per cent. of moisture, and varies under no ordinary circumstances one-half per cent. It therefore never becomes musty in the bins, and is always merchantable. When a broken kernel is viewed through a strong magnifying glass, it shows a perfect granulation from centre to outside, each cell of flour being distinct and separate, though closely packed, and of a milky rather than a snowy whiteness. It always grinds cool, freely and easily. The chaff has a dry, soft, elastic, mellow feel, always bolts freely, with the greater part of the offal in large, clean flakes of bran. 'Cut your wheat early.' This false and pernicious doctrine has ruined more mill owners than all else put together. Harvesting wheat in an immature state and allowing it to dry, or ripen, as it is called, in the shock, expecting a good flouring wheat, is analogous to drying half baked loaves by the stove, expecting good bread. At the present day it requires two or more bushels of seed to the acre; the plants produced are weak, subject to the attacks of parasites, and often winter-killed. This wheat at first marketing contains 12, 14, 16 and even 18 per cent. of moisture. It is therefore damp and unmerchantable, and soon musty in the bins; and when dried to a marketable condition grinds warm, or hot, with a withered toughness, leaving a portion of ungranulated flour adhering to the bran with a tenacity like unto Adam's sins, that no extra power of water by night will ever take off. "Yours, etc., OLD MILLER."

**Tar Water for Potato Bugs.**

Mr. S. R. Hart, of Brighton, N. Y., near Rochester, has for two years past used on his potato vines water which has been impregnated with gas tar. Two quarts of gas tar in a pail, and fill the pail with water; stir it up well, and let the tar settle. Then sprinkle the vines with the water from a sprinkling pot. This has proven more effective than Paris green. He has also tried it on currant bushes, and finds it equally effective. It is inexpensive and perfectly reliable, and no doubt will prove equally sure death to insects of every kind on trees. This gas tar can be had for \$1.00 a barrel, and one barrel would supply a whole township. I give you this information, believing you readers will find it a great desideratum in these days of insect pests.

**Ontario Fruit Growers.**

WINTER MEETING.

The Ontario Fruit Growers Association convened the 18th inst. in Hamilton, Ont., to discuss a programme prepared for this winter meeting.

Mr. P. C. Dempsey, of Albrey, occupied the chair. There were present: Messrs. W. Saunders, London, vice-president; D. W. Beadle, St. Catharines, secretary; N. Halton, Hamilton; H. F. Young, Trenton; A. McD. Allan, Goderich; Geo. Leslie, jr., Toronto; John Magill, Oshawa; J. S. Woodward, Lockport, N. Y.; S. D. Willard, Geneva, N. Y.; L. Woolverton, Grimsby; W. E. Wellington, Toronto; J. D. Mayer, Jordan; C. M. Homsberger, Jerordan; M. Pettit, Winona; Chas. Jury, C own Hill; B. Scott, Arkona; W. M. Moore, Stony Creek; J. J. Bowman, Ancaster; A. M. Smith, St. Catharines; G. H. Cline, Ancaster; J. M. Denton, London; Thos. Beall, Lindsay; J. D. Pringle, Hamilton; Chas. Arnold, Paris; Wm. H. skins, Hamilton; P. E. Bucke, Ottawa.

The programme contains twenty-four subjects for discussion, most of them of the highest interest to fruit growers.

"What varieties of grapes are most profitable for market?" was discussed by Messrs. B. G. A. M. Smith, Gott and the President. The Concord and Delaware received great favor from most of the speakers. Mr. Gott said he produced Concord grapes at the rate of 5½ tons, while the average rate in the State of Michigan was only 2½ tons to the acre. Mr. Saunders spoke on the second question of the most desirable varieties for amateur cultivation. He put at the head of the Burnett, the Canada and the Creveling, followed by Rogers' hybrids and the Delaware and Concord. The Martha grew about London, but the Iona would not ripen there. Mr. Wellington thought the Champion a good grape for amateur growth; a



grape for the wines, however, needed to have a native strain in it.

The following were appointed a committee to examine fruit on exhibition and report: Messrs Wm. Saunders, S. D. Willard and Alexander McD. Allan, which varieties of clematis are best for cultivation?

Mr. Willard believed there was nothing in the colored clematis superior to the Jaquoni. Mr. Beadle thought the Canadian people more likely to succeed with those varieties that bloom upon new wood. They would stand better any excesses of frost or other disadvantageous circumstances than those that bloom on old wood. Mr. Saunders had had very fair success and entertained a high opinion of the clematis; the Virginia is a very pretty plant when in season. There is also a bluish purple one native to this country which is very handsome, but none are so handsome or in any way equal to the Jaquoni.

The committee on fences submitted their report. Col. Magill objected to a portion of the report referring to the durability of rail fences. He had a fence which lasted 47 years without any repairs being necessary. The trouble at the present time was with the men who put up the fence, and not with the timber. Having been a practical fence builder he professed to know whereof he spoke, and he gave several suggestions as to the superiority of one fence over another. He said he had seldom seen a rail fence which complied with the law relating thereto. As to the question of owners of land being compelled to fence in their property to protect it from neighbors' cattle, he said the people had the matter in their own hands, as every municipality was empowered to pass a by-law to enforce the inhabitants to keep their own cattle in. Mr. Beadle gave a little of his experience respecting municipal legislation on fences. He had been a candidate for reeve at one time, and upholding the idea that the people should be compelled to hedge in their cattle, a cry was raised that he was down on the poor man, and he was consequently defeated. The President said that he had seen rails that had lasted over 70 years. These rails were of butternut. The President, for the committee on fruit packing, verbally reported, saying that no definite conclusion had been arrived at. There had been an impression that the law regulated the size of barrels, but such was not the case. Respecting peaches and small fruits they had arrived at the conclusion that 12 quarts were better than half a bushel, as they would carry better and for other reasons. However, on all these matters they could arrive at no definite conclusion, and had therefore thought it better not to report. Mr. Woolverton thought the growers should obtain as much freedom for themselves as possible, that they might ship in whatever packages they pleased. The President thought that there should be some arrangement as to fruit that would enable the purchaser to get the full amount that he supposed he was purchasing. Mr. Bucke thought there should be some standard for apples, etc. Mr. Drury agreed with him. A basket of peaches should be as definite a term as a bushel of potatoes. Mr. Gott agreed with the idea that there should be a standard of measurement for peaches, etc. This was positively necessary for the protection of the producer. Mr. Biggar would be in favor of selling peaches, grapes, pears, plums, etc., by weight, and have the baskets made to contain certain weights. Mr. Beadle had formed no particular idea on the matter, but he thought the general principle of doing as you would be done by should actuate buyer and seller. The majority of feeling was in favor of having a standard basket. At Grimsby they found a 12 quart basket preferable for packing the peaches in; the half bushel (16 quarts) was too large for the soft fruit to keep well in. As long as it was understood between buyers and sellers what was being sold there would be no injustice. A quart was too large a package for strawberries, and it should be an understood thing that the baskets did not contain a quart. Mr. Woodard said that this question was troubling them in New York. He believed there were only two solutions to this question. One was to sell by weight, and the other to brand every package or basket with the amount contained therein. The latter idea it was felt would meet the case exactly. If this were compulsory by law the seller could then be charged with fraud if the package contained less than was represented. On taking up the best method of cultivation of celery and best varieties, Mr. Taylor said that celery had been almost a failure in his section. It did not pay to grow for market. The small sizes were preferred; the large sizes being no good for market at all. The

insect was the great cause of complaint. Mr. Bucke said that there was a great deal of celery grown in his neighborhood. It flourished much better in black muck and in low localities than in light soil. Mr. Woodard, of New York, was very fond of celery and knew of nothing more easily grown, provided there was plenty of water. Another thing requisite was to have the ground rich. He had been very successful in packing it for keeping purposes. He took a deep box, put in the celery just as it was taken from the ground and laid it in alternate layers with loam. Mr. Beadle said that the variety that pleased him best was the Dwarf Sandringham. The larger varieties were not nearly as pleasing as the dwarf. As regards the cultivation, he had found the black mucky soil much better than light soil. This season being dry the celery stood still, and the effect of insects could be seen on the leaves. But the subsequent rains had benefited the plants and the crop had ultimately been very good. He never adopted Mr. Woodard's plan of keeping it, but had put it in trenches and considered it a very good plan. Mr. Woodard said that it was much more convenient to get at by packing in boxes in the cellar. It could be readily watered with good effect. The President said that he had also seen the system of watering adopted, and the result had been so good that he had resolved to try it. He had also seen celery packed in straw and it had bleached very nicely.

The next question taken up was: Which of the new varieties of potatoes give promise of being valuable? Mr. Bucke said that a friend of his from one pound of the Dempsey variety had obtained eighty-one pounds. The flavor was very nice and it would be very largely grown next season in his neighborhood. Mr. Wellington spoke in favor of the White Elephant, a potato which he thought had come to stay. It had turned out very well, and had good cooking qualities. Mr. Beadle said that he had compared the Early Rose and Dempsey. The former, on account of the dry weather, was not half a crop; the Dempsey yielded much better. With regard to quality, he said he intended hereafter to plant only the Dempsey, which in his opinion was the preferable variety in every respect. Care, however, was necessary in the cooking. Mr. Woodard had a high opinion of the Beauty of Hebron, which is the leading variety in his vicinity. All things considered he thought the Early Rose was perhaps the most reliable. Mr. Saunders had tried the Dempsey alongside of the Early Rose, and the former yielded fully 100 per cent. more, and the quality was much better. Mr. Bucke believed that no potato would come to stay. They would all pass away, and from year to year new ones were introduced. He was of opinion that the Early Rose, which had been in use so long, would decay and drop out of use. The President offered his testimony. The Dempsey was a seedling of his own. It was the only one which he thought worthy, out of several hundred of cultivation. It took two or three years to bring it to the character it now obtains. He was now highly pleased with it and would stick to it. It was a cross of the Early Rose and Early Goodrich. It always grows uniform in shape, the stalks grow very upright, and there were many other things that could be said in its favor. The Beauty of Hebron, he considered, was the best early variety that could be cultivated.

The subject of melons was considered; best varieties and best method of cultivation. Mr. Smith was called on to tell what he knew about melons. He knew but three varieties. The Hunter muskmelon was a large, long, rough-skin melon of very fine quality. The Askeo Excelsior was a watermelon of very good quality. The Cuban Queen he had tried this season. It is claimed to grow very large, but the largest he raised weighed 25 lbs. It is a fine melon for amateurs, but for shippers it is rather tender to handle; the skin is so thin that it breaks very easily. He had tried other melons, but those were the principal ones of which he knew very much. As to cultivation he made his ground very rich; it could not be made too rich. Frequent cultivation produced a good effect. He had had melons as early as the middle of August, sometimes perhaps a little earlier. He never practised pruning the vines. He generally put them from seven to eight feet apart; did not assist fertilization. The President had tried pruning. When the branches started to run he pinched the end which induced laterals to start out from every joint and a more abundant crop was produced. The hills were put eight feet apart. He did not like too high manuring for melon purposes. He would rather have a lean,

sandy soil than a very rich soil, but the location must be warm. The soil between the hills could not be cultivated too much, but for such melons care should be taken not to go deep into the soil. It is not the manure and strong soil that is wanted, but heat and cultivation. The cultivation admits the amount of moisture necessary without the cold that would accompany the application of water. The production is very profitable if there is a market. The seed must not be put in too early, not before June.

"What are the best varieties of corn for table use?" Mr. Beadle said sweet corn was the best variety. Mr. Beadle grows the Evergreen and Minnesota varieties, which he thinks are the best. Mr. Woodard said that in New York State the black sugar corn was thought a good variety. The question "what are the best varieties of peaches for market, ripening so as to give a continuous supply during the season?" Mr. Gott thought Crawford's Early was the peach for the million. Mr. Pertin said he would plant first the Alexander, then the Early Rivers. Mr. Morris favored the Early York. Mr. Biggar said the Morris White was a fine peach. Mr. Hontzberger, as an early peach, would grow the Early Canada and Amaden's June. He liked the Mountain Rose and the Sweetwater peaches. Mr. Gott said the Burnard was a very profitable peach. Mr. Willard found the real early and late peaches had paid him best. Mr. Woodard thought the Early Beatrice the best peach to ship. The Galloway peach was best for keeping. When the question "What are the best peaches for canning or drying?" came up, Mr. Hontzberger said the Ottos Beauty was the best for canning. Mr. Beadle said white flesh peaches were the best for canning and drying, because of their good appearance, but there were better varieties for the purpose. Mr. Woodard spoke highly of the Mountain Beauty. The question "What were the effects of last winter on fruit trees, grapes vines and small fruit?" was next discussed. Mr. Bucke said they had never had a better winter, and last season was a good one and gave large crops. Mr. Saunders said last winter was a hard one on fruit in the London section. Mr. Woodard's theory was that the frosts of November, 1880, damaged the trees. Mr. Macpherson thought that in the Owen Sound district the June frosts had hurt the trees. Mr. Arnold agreed with Mr. Woodard's theory. Mr. Gott suffered severely from the frosts of 1880-1. Mr. Beadle said there were many mysteries about this spoiling of fruit by frost. Difference in locality made a variation in the effect of the same degree of frost on fruit. He favored a system of reports from different localities for purposes of comparison. Mr. Dempsey said that in Prince Edward county the frost of the last winter did very little damage to fruit. A couple of Russian varieties of apples were destroyed. Plums stood the winter well. The grapes suffered severely, and one variety proved as hardy as another, difference in location in the same vineyard having operated to get opposite effects through the frost. Small fruits came through very well.

"Which varieties of pears are most profitable for market?" was then discussed. Mr. Smith thought the most profitable variety in the Grimsby district was the Bartlett. Mr. Beadle wanted to know if it paid to raise pears at all, especially when they considered the awful destruction of the pear blight. Mr. Gott said the Bartlett was most profitable, and the Flemish Beauty was most sought for. Bonne de Jersey had valuable qualities, as also had Clapp's Favorite. This was a fine looking pear, and had to be marketed before getting too ripe. This is a combination of the two fruits named. The orchards in his district (Lambton) had not suffered at all from blight. Mr. Orr said Bartletts had borne well, and commanded the best price, but the Flemish Beauty was most profitable, as it bore so very well. The soil where the Bartletts blighted was sand; where they and the Flemish Beauty were doing well was a loam with a heavy red clay sub-soil. Mr. Willard thought the cause of peach yellows and pear blight was the same, as would be shown when the result of the investigation now going on was arrived at. These investigations, he thought, would give varieties of pears which would be blight proof. He believed the nearer they got to original blood, to the first seedlings, the better; more productive and profitable trees would be got. The Seckle was a pear which did not blight. The Dr. Rieder originated on the banks of Seneca lake, and was a pear which did not blight when trees all around it were destroyed. The wood of this tree was rough-grained and strong. The Rutter was another pear that did not blight, it was an early pear, of as good quality as the



Duchess. They were worth \$10 a barrel in Philadelphia, and the trees were very productive. The English Jargonelle was a variety which did not blight. He believed the best plan was to pick out a list of pears and peach trees which did not blight; and stick to them, even though the quality may not be as good as that of other varieties. He had tried the plan of washing pear trees all over with a solution of lime, carbolic acid and sulphur, and found that the trees did not blight. But the plan was impracticable with large trees. He was experimenting with some seedlings from the Chinese Sand pear, which he believed would be blight proof. The Keeper, a pear originated in Pennsylvania, a combination of the Sand pear and Bartlett, was blight proof, hardy and quite productive. The quality was fair. The quality of late pears, the speaker believed, depending upon the time of picking and manner of handling. The style of the pear would sell it.

Mr. Drury said that a gentleman who owned a fine peach orchard in North Norfolk, which orchard was not troubled with the blight, had told him he had prevented the blight by applying raw linseed oil to the trunks of the trees, which were about seven years old. Mr. Smith said Mr. Springer, near Hamilton, had a fine orchard of pears; slit the bark of the trees and saved them for six or seven years, when the blight destroyed them. Mr. Woodard had an orchard of 4700 trees, all Dwarf Duchess, none of which had blighted. He applied a dressing of a composition of salt, bonedust, ashes and a little copper once a year. The orchard paid him about \$3 per tree each year. He believed these compositions were not remedies, but preventives of the blight. If a limb was attacked he always cut it off. He believed in the Duchess as the best pear all around. Mr. Arnold did not believe there was any such thing as immunity from blight. The Goodale had not blighted so far with him, but he could not say how long it would remain uninfected. The thirteenth and fourteenth questions were taken together and read: Which varieties of pears are most profitable for market, and which varieties are the most desirable for the amateur? Mr. Beadle said the Josephine de Malins was a good pear for the amateur. Mr. Dempsey thought this variety was the best winter pear; bore quite young and ripened easily, and was of delicious quality. The first fruit from the trees was not of as good quality as that of succeeding years. They will keep in a warm cellar till March. The Vicar of Wakefield had done well this year, but had not come to perfection previously for 15 years. Manning's Elizabeth, Osband's Summer, the Buerre Hardy were some of the best summer pears. The Nostezzer was a good pear. Osband's Summer crossed with Duchess resisted the blight well. His opinion was that the trees from seed resisted disease and were of good quality until the third and fourth generation. His experience with the Flemish Beauty pear was that for six years it had done well, but had then succumbed to blight. The Seckle was of good quality but too small to be profitable for market. He would not prune standard pears; the less cultivation they had the better; sulphate of iron (copperas) applied as a liquid, and ashes, were the best manures for pears. Mr. Biggar had found that uncommonly large pears would not sell as well retail in the market as small ones. Flemish Beauty pears with him overbore. Mr. Dempsey said that unpruned trees in his section bore fruit which would stand the winter better than that from pruning trees. Mr. Willard liked the Josephine de Malin pear for market. He was of a similar opinion with the President as to not pruning standard pear trees. A gentleman who had the best orchard in the United States would not allow a tree to be cut. Mr. Morris said that trees in low, light soil were particularly liable to blight, trees on a knoll in clay soil were very free from blight. Mr. Biggar applied the knife to blighted trees and applied a coat of lime and oil to the diseased trees. Mr. Arnold liked the Seckle and the Tyson, the latter being a fine pear; he thought the Gloucester Seau was an extra fine pear, but he could not grow it. Winter pears were not profitable because they were of so uneven a quality. Mr. Saunders had grown the Gloucester Seau successfully and found it an excellent fruit, for size and fine flavor. Mr. Halton had good success with the Duchess as a standard pear. Mr. Willard said that in Massachusetts, the banner pear state of the union, the demand for the Duchess as a standard was growing steadily. Mr. Gott had found the demand for dwarf pears getting less every year. Mr. Wellington found the demand for them on the increase as also had Mr. Biggar. The President explained

that difference of location in the country made a difference as to the success of dwarf and standard trees. In a cold section of country it was risky to plant pears on quince or dwarf stock.

Which are the most profitable varieties of raspberries for market, and which varieties are most desirable for amateur culture? was the next question discussed. Mr. Smith found the Highland Hardy the best red raspberry to cultivate, as it was very early. The Cuthbert was the coming red raspberry for the market. Of black caps, Davidson's Thornton and Mammoth Cluster were good, but the Gregg was the coming black cap. Mr. Gott found the Naomi and Turner were good. The Clarke gave abundant satisfaction; fruit large and fine flavored. The Philadelphia was a profitable fruit. The Highland Hardy and Brandywine were valuable only because they were early. The Cuthbert is the coming cherry; fruit large, fine flavor, and vines very productive. Mr. Woodard thought the Franconia was a fine berry; and liked the Doolittle as an early berry. Less quarts of the Mammoth Cluster would make a pound of dried fruit than of any other varieties. Mr. Woodard said that along the Hudson river the Highland Hardy had been the variety used for the New York market, but of late had been replaced by the Hudson river Antwerp.

The Secretary read a report from the committee on the size of fruit packages which recommends that twelve imperial quarts be the standard of baskets or boxes used for shipping peaches, pears, cherries, plums, etc., and that three half pints be the size of the berry basket for strawberries, raspberries and other small fruits; and that the size of the apple barrel be the standard Canadian flour barrel; and that a petition be forwarded from the Association to the Legislature at Ottawa, requesting that the views expressed be carried out. The report was adopted. Discussion then ensued on which varieties of strawberry are the most profitable for market? Mr. Gott thought the old Wilson's Albany stood at the head of the list. The Crescent Seedling is a new variety and one of great promise. The Kentucky is a very valuable variety. It is not a very heavy bearer but commands a good price, being a late bearer. Mr. A. M. Smith said he did not grow many for market and could not give much enlightenment on the question. His opinion was that the varieties that paid best in his locality were the Early Canadian, the New Dominion, the Sharpless and the Crescent Seedling. He had some new varieties which were very promising. Some of Arnold's, he thought, would be very good for market. The Arnold's Pride and Bright Ida were very promising. The Glen Dale was a good late bearer, probably as good as the Kentucky. Mr. Auntsberger said the Wilson's Albany was the standard with him till last year. He thought well of the New Dominion and Kentucky. He would recommend the Early Canada and the New Dominion for market purposes. Mr. Morse thought the Captain Jack would outlay any. The Wilson, the Captain Jack and the Crescent he thought most profitable. Mr. Arnold was in favor of the Mary Fletcher, and thought it should be cultivated; perfectly satisfactory in every respect. No one would eat a Wilson after tasting a Mary Fletcher. Everybody admits the Mary Fletcher needed no fertilizer. The Alpha was the earliest. The Maggie and Bright Ida were capital berries for shipping purposes. Mr. Bucke said that in Ottawa the Arnold's Pride and New Dominion were most esteemed. Mr. Beadle found nothing grew so well or paid better than the Wilson's Albany. The President spoke in favor of the Crescent seedling and the Wilson's Albany. The former went into the market earlier and brought a higher price. He had never had a good crop of the New Dominion. Mr. Beadle brought up the question of vegetables, and asked Mr. Page to read such portions of his report as he deemed desirable. Mr. Beadle said the cauliflower suffered from the extreme heat and drouth of the Province; but if planted in the latter part of the summer, and the autumn is as this autumn has been, they would head well. They will, if properly packed, continue to grow and develop fine heads. Mr. Beadle thought the growth of onions could be made more profitable than that of any other vegetable. He has grown onions on the same spot for seven years, and they yield just as well now as at first. He fertilizes with barnyard manure largely, with ashes and lots of salt. He also used muck largely, and found it very successful. Mr. Taylor said it was impossible to raise cauliflower with profit; same with onions; ditto celery. He could grow potatoes, beets, carrots, etc., with good results. Mr. Willard read an extract, saying that pyrethrum or Persian insect

powder was certainly destructive to the cabbage worm—a teaspoonful to a gallon. It was a remedy that was not dangerous to human life.

Mr. Beadle moved that the following be committees to report at next meeting:

New Fruits—Messrs. Morris, (chairman), Allan, Gott, Gilchrist and Young.

Ornamental trees, shrubs and plants—Messrs. Wellington and Leslie.

Vegetables—Messrs. Bucke (chairman), Page and Taylor.

Roses—Messrs. Beadle, Wellington and Dempsey.

Is the sweet chestnut a profitable tree to cultivate nuts? This was the question next discussed. Mr. Arnold said yes, where the trees would grow. Mr. Page said the timber was very nice for lumber, but the trees would not bear for 12 or 15 years.

Mr. Gott answered yes to the question.

The best trees for country roadside planting were then considered. Mr. Beadle suggested the elm and white ash. Mr. Bucke suggested the black walnut, maple and most any hardwood tree. Mr. Huntsberger preferred the Norway spruce and soft maple. Mr. Dempsey favored the hard maple; he objected to the black walnut as the branches spread too much. He preferred the elm, however, above all others. Mr. Drury said that in the absence of a stock law there was no encouragement to plant roadside trees. Mr. Bucke said he thought there was no division of opinion that there should be a general stock law. A general discussion of a mixed character ensued on the remaining questions of the list. Mr. Beadle thought the silver leafed maple good for streets in cities and towns. The sugar maple was perhaps preferable to any; but it was a slow grower. The hemlock was a pretty tree, but needed much nursing. Mr. Drury found the white cedar a fine appearing evergreen for hedges, when trimmed and pruned. The President, from his experience, thought, in the lifetime of man, a black walnut tree would perhaps grow enough to furnish one decent saw log. He thought the black walnut and white hickory, if properly pruned, would be commercially valuable, say in 20 years.

#### The Fashion in Wheat.

A noteworthy change in the popular fashion in wheat has occurred within a few years. It is something more than a mere fashion, for the wheat now most in favor is really the strongest, heaviest and best. Formerly a very white grain with abundance of starch and little gluten was preferred; but since the introduction of the New Process system of flouring, the hard red wheats command considerably higher prices from millers. It is not merely that red wheat is preferred. It must be hard and glutinous. The Fultz is a red wheat, and at first millers thought it would make good flour. But they soon learned that underneath the red husk there was as large a proportion of starch as in any wheat, even larger than the Clawson, which is objectionable on this account. It does not matter how thin the skin or bran may be, the thinner the better, provided that between the bran and starch is a good layer of gluten, which is the nitrogenous strength-giving portion of the grain as distinguished from the starch, which is only a form of carbon, and of comparatively little value.

How to increase the proportion of gluten becomes a question of practical importance. That it can be done I have much confidence, provided we understand the conditions and take the right course. Years ago farmers learned how to improve their wheat according to the fashionable standard at that time. When Mediterranean wheat was first introduced, it was a long, thin, red berry, more like rye than wheat. It was especially recommended for sowing on low, moist grounds, similar, doubtless, to the soil on which it originated. But farmers on dry, gravelly and sandy uplands soon learned that on their soil the thin red Mediterranean became a good wheat, and comparatively white and plump. Those of us who were on low lands got seed wheat from those who grew Mediterranean on sandy or gravelly uplands. We found, however, that as the wheat became more white, it was less vigorous and productive. What is wanted now that red wheats are in demand again, is to reverse this process, soliciting seed from wheat grown on low lands, and especially specimens that have an abundance of gluten. These will be generally the hard heavy wheats, starch being somewhat lighter than gluten; the grain containing most of the latter will weigh most per bushel.



**Canadian Wheat.****ITS SUPERIORITY OVER THE AMERICAN ARTICLE.**

Chicago is the great centre and export port of the grain trade, and the growers around and the dealers there are now much concerned as to what results shall arise from the development of the British Provinces of Manitoba and Red River. That they have reason to be so the following statistics taken from American sources will show. There are official experts who grade the wheat into No. 1, No. 2, No. 3 and rejected. Comparing the qualities of American and Canadian wheat we find this result:

	Canadian	American
No. 1.....	87 per cent.	1 per cent.
No. 2.....	11 "	66 "
No. 3.....	1 "	23 "
Rejected..	1 "	10 "

Besides this general superiority of quality the wheat of Canada makes flour of greater strength than the American. It contains more gluten, while the other contains more starch. The land, too, is more prolific. In Manitoba and Saskatchewan the produce of wheat is 28 bushels to the acre, while in Illinois it is 17, in Iowa, Wisconsin and Kansas, 10, and in Texas only 8½. The land of Manitoba and the Red River is an alluvial black loam of about 20 inches in depth, and requiring no manure; indeed, on some parts wheat has been grown steadily for thirty years without the application of fertilizers. Then, as regards extent, if only one-half of the ground drained by the Red River and its affluents were sown with wheat, the average annual yield would be 500,000,000 bushels, or more than the entire amount now raised in the United States. Then, as regards cost, the wheat of Manitoba can be raised and delivered at a railway station at 40 cents a bushel, or, say, 70 cents on board ship at an eastern port, a price with which the most favorably situated portions of the United States cannot compete. The great grain dealers of Chicago seem to anticipate that within ten years Canada will supply the world with wheat, and at prices under those hitherto current.

**Improved Grasses.**

In many respects grass-culture has not kept pace with improvements in other branches. We are continually getting new plants, new trees, new fruits, new vegetables, new grains, but a new grass is never thought of. We have the same orchard-grass, the same red-top, the same timothy, that we had over a hundred years ago; and so far as the drift of thought goes, we shall have the same grasses for a hundred years to come. And yet there is no reason that we can see why there should not be improved grasses, as well as improvements in any other thing; and there doubtless would be if public attention was drawn to the matter as it should be.

We have, to be sure, during the past twenty years or so, been treated to Hungarian grass, or millet, a harsh, coarse thing, of little merit except for the very heavy crops it produces; and Lucerne is no better. There surely must be others which it would be of advantage to introduce. We see in foreign agricultural journals that some attention is being given to a species of grass called Tussock-grass, from its growing in large bunches, and which, from its description, appears to be closely allied to our orchard grass. It does not appear to be considered very hardy; but there are no doubt a number of places on this continent where it would find itself entirely at home. It is said to grow five or six feet in height, and to produce vegetation of great fineness of quality and exceedingly nutritious. When once a field is set with it, it is seldom killed out by other vegetation, and goes on producing good crops for a great many years. It appears to be hardy in Hungary, and if so it ought to stand considerable frost. We wish all this was just so as stated, but we are afraid that in this, as in so many other new and reputed valuable products of the soil, we shall not hear much of it in the future.—[Germantown Telegraph.]

**The Ontario Breeders' and Turf Ass'n**

A meeting was held at Woodstock last month, the object being the formation of the above association. The following officers were elected:—President, J. H. Allan, Picton; Vice-President, Joseph Duggan, Toronto; Secretary-Treasurer, P. Collins, Dundas; Court of Appeal—Messrs. J. P. Wiser, Prescott; S. Grigg, London; Dr. Elliott, St. Catharines; Wm. Christie, Toronto; and O. B. Chamberlain, Petrolia. The name of the Association is "The Ontario Breeders' and Turf Association," and it starts with abundant prospects of success.

**What the British Markets Require.**

The best way to cultivate a foreign market in any commodity is to ascertain what that market requires, and supply it in kind and quality as nearly as possible. It is folly to send what is not desired, for custom and prejudice will stand in the way of profit in ventures of this kind, however good an article may be. No time or money need be lost in trying to educate a foreign market, save by slow degrees, into buying something different from what has long been demanded. The success of the English in selling their manufactures all over the world is due, mainly, in finding out in advance what was wanted. The wisdom of that policy cannot be questioned, and while the buyers of live stock have learned, very nearly, what kind of cattle and sheep to send to Great Britain, many farmers and feeders are not so well posted. This trade is well maintained, and will be for a long time to come.

What do the British markets require in the way of live animals for slaughter? As ascertained from shippers who have taken pains, by personal investigation, to post themselves, they require fine-boned, heavy-fleshed animals to those having large bones. Four-year-old steers are the best to ship, but a great many good cattle are shipped from three-year-old upwards. No cattle weighing less than 1,300 pounds should be shipped; the best weights for the English market are from 1,300 to 1,600 pounds. A Montreal shipper says that larger animals are not desired. Cattle weighing as much as 1,800 to 2,000 pounds have been sent, but the British butchers prefer those of the former weights.

In regard to sheep, the weight preferred is 150 pounds, live weight, that will give a carcass of from seventy to seven-five pounds. The age for shipment should be from eighteen months to two years. The English butchers prefer black-faced sheep, so that it will be seen that South-downs, Shropshire, and Oxford-downs are the most profitable sheep for this traffic. A difference of two pence per pound is made between the value of wethers and ewes in England, equal to a cent and a half live weight. When the English butchers kill a sheep of either of the breeds above named, they leave the skin on the legs, so as to show their customers that they are selling them "down" mutton.

**Improving a Poor Farm.**

The beginning of improving the land is in draining it properly. Where a farmer is unable to make covered drains, either on account of its cost or for want of the required fall, he should have open ditches in order to get rid of all surface water. The next point of importance is to have your plowing well done and the land brought to a fine tilth, keeping it perfectly clear of vegetable growth except that which is sown or planted, putting in no more crop than you are able to cultivate well; get your land in clover as soon as possible, and when you have succeeded in this apply from thirty to fifty bushels of quicklime to the acre. Should your land be too poor to produce clover, try peas, buckwheat or oats, which, as soon as in blossom, should be plowed under for the purpose of supplying the soil with vegetable matter. Endeavor to convert all coarse material, such as straw, fodder, rough hay (and anything else that will absorb the liquids from the stable), into manure, and apply directly from the stable in order to make the most of it. When once in grass keep a sod upon it as long as possible, and pasture no more than is absolutely necessary. Depend upon clover, plaster, lime and stable manure for increasing the fertility of your soil, and if you are unable to get a sufficient quantity of these, purchase the best commercial fertilizer in the market.

**Depth to Plant Seed.**

Some years ago we made a series of experiments on wheat, corn, oats and beans, covered at carefully measured and different depths. The soil was moist, so that the seed germinated freely when quite near the surface. At half an inch in depth wheat came up in five days; at an inch deep in six days; two inches in seven days; three inches in eight days; four inches in ten days; and at six inches deep in twelve days. Five weeks afterwards the plants were most vigorous from those planted half an inch and an inch in depth, but scarcely superior to those from a depth of two inches; the others decreased in vigor with the greater depth. At six inches there were but few slender stalks. The soil was strong, rich, well pulverized loam.

**Training Shepherd Dogs.**

Darwin thus describes the training of shepherd dogs: "When riding it is a common thing to meet a large flock of sheep guarded by one or two dogs at a distance of some miles from any house or man. I often wonder how so firm a friendship has been established. The method of education consists in separating the puppy while very young from its mother and in accustoming it to its future companions. A ewe is held three or four times a day for the little thing to suck, and a nest of wool is made for it in the sheep pen. At no time is it allowed to associate with other dogs, or with the children of the family. From this education it has no wish to leave the flock, and just as another dog will defend his master, man, so will this dog defend sheep. It is amusing to observe when approaching a flock, how the dog immediately advances barking and the sheep all close in his rear, as if round the oldest ram. These dogs are also easily taught to bring home the sheep at a certain hour in the evening. Their most troublesome fault when young is their desire to play with the sheep, for in their sport they sometimes gallop the poor things most unmercifully. The shepherd dog comes to the house every day for his meat, and as soon as it is given him skulks away as if ashamed of himself. On these occasions the house dogs are very tyrannical and the least of them will attack and pursue the stranger. The minute, however, the latter has reached the flock he turns round and begins to bark and then all the house dogs take quickly to their heels. In a similar manner a whole pack of hungry wild dogs will scarcely ever venture to attack a flock guarded by one of these faithful shepherds. In this case the shepherd dog seems to regard the sheep as his fellow brethren and thus gains confidence; and the wild dogs, though knowing that sheep are not dogs, but are good to eat, yet when seeing them in a flock with a shepherd dog as their head partly consent to regard them as he does."

Many of our readers desire to procure the latest and best varieties of seeds; we therefore make a few remarks from leading seedsmen's catalogues, which may be read with interest. We do not give the name of each catalogue from which we make the extract, but seedsmen advertising in this journal will be found as reliable as any, and in fact more honorable and honest than some who we know have dealt very sharply, if not thievishly. We do not want dishonorable advertisers' patronage in the ADVOCATE. Do not ask us to supply or procure novelties for you, although we have for years through the Canadian Agricultural Emporium supplied you with the best varieties that we could find in any part of the world. We are not now connected with that establishment, as we have disposed of our stock of seeds, implements, etc., to the firm of Pearce, Weld & Co. Mr. Pearce has been known as one of the leading commission merchants in this city for many years. The other partner is my son, Henry Weld, whom many of you have met, as he acted as travelling agent for the ADVOCATE for many years. We feel every confidence in recommending them as gentlemen of honor and strict business principles, but they are not as yet advertising many of the novelties as spoken of above.

The January number of your excellent journal, the FARMER'S ADVOCATE, have come to hand, and the members of the North Hastings Agricultural Society, who have regularly received it for years, are more than ever pleased and delighted with its contents. At our annual meeting other agricultural papers were presented, with strong inducements for subscribers, but the members unanimously voted to continue the FARMER'S ADVOCATE.—THOS. EMO, Treas., Ivanhoe, Ont.

Six thousand bushels of potatoes were landed in New York from Ireland last Saturday, and a large quantity of carrots, turnips and celery is on its way across the Atlantic.

Minneapolis, Minn., manufactured nearly 4,000,000 barrels of flour in 1881, of which 1,233,399 were exported direct to Europe. It is the largest flour producer of any city in the world.





**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 ¼ ounce. We do not hold ourselves responsible for the views of correspondents.

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

#### AMBER CANE.

To W. M. we would say that in the FARMER'S ADVOCATE, August, 1881, we treated fully of the growth, yield and manufacture of amber cane, to which we would refer our readers, and now briefly answer his enquiries. The early amber cane is especially adapted to a latitude such as that of Canada. It will ripen wherever flint corn will mature. It is of the first importance to procure fresh good seed. Cane will deteriorate in a cold climate, and should be renewed from time to time with fresh seed. The land should be prepared as for corn, 3½ feet each way, marked in rows. About 2 lbs. of seed per acre is required; plant shallow, say ½ inch covering and on a common level. At the second hoeing thin out to 5 or 6 seeds in a hill; keep free from weeds. The soil should be stirred about the hills as soon as the rows can be followed. It should be cultivated the same as corn. The seed becomes ripe about the first of September; the cane should then be cut, and several days ahead of grinding. If cane be wanted for immediate use, strip it on the hill, and cut it at once after stripping; for if left to stand for a few days, it will be poorer in its saccharine qualities. If there be symptoms of a coming severe frost, the crop should be cut before stripping, and laid with leaves on in windrows, so piled that the leaves will cover the stems and cause the rain to run off the pile and not drench it. The leaves make excellent fodder and valuable feed. It has been found that ripe seed is the sweetest. As to mills and evaporators, buy none but the very best; they only are safe, and the cheapest in the end. Inferior machinery is expensive and wasteful, and often disastrous. In the syrup and sugar-making a factory on the cheese factory principle would be beneficial to the neighborhood.

#### A NOVEL CURE.

SIR,—In the last number of the ADVOCATE, J. N. P., Newboro P. O., asks for a cure for ring-bone. Some years ago I had a horse so lame in one fore foot that he could not step on it. I had tried three different receipts, all warranted to cure, including the firing process, which proved a failure, the horse becoming useless. The following novel application cured him, but did not remove the lump, but he was a valuable farm horse for many years: Clip the hair close, cut through the skin in several places, take a cotton cloth long enough to tie around the leg, with the edges tight to the leg, the middle loose, then take two toads, give them a stunning blow on the head, cut two or three slits on the under side, put on warm. In two or three days this will dry up. I repeated three times to make sure work. Tie the horse so he cannot bite it. H. R. W., Winona P. O.

SIR,—I have seen in your last number sent to me that there was at the Provincial Exhibition at Montreal a potato digger exhibited that dug, cleaned and collected the potatoes. You did not give the manufacturer's name nor address, so please do so in your next number in your answers to inquirers, as such an article has long been wanted and looked for in this country. J. M., P. E. I.

[It would be well for the manufacturer of the potato digger, and others having useful agricultural implements, to make them known through the papers devoted to agriculture.]

#### SPANISH CHESTNUTS.

SIR,—Do you know anything about the Spanish chestnut, and where I can get some of them?

J. H. M., Beamsville, Ont.

[It is said that the Spanish chestnut requires a somewhat milder climate than ours. The chestnut indigenous to the United States will furnish nuts of a good size, about half as large as the Spanish.]

SIR,—Will you oblige a number of subscribers by telling through your most valuable paper if it would be profitable to put oak sawdust around blackberry bushes to keep down grass and rust.

I. L., Waterford, Ont.

[It might be beneficial as a mulch, but will some of our subscribers who have tried it please answer.]

#### THE AGRICULTURAL COMMISSION'S CORRECTNESS.

SIR,—Whilst reading lately the report issued by the Ontario Agricultural Commission (page 557) I notice that it is stated there is no herd book in Canada for any cattle except Durhams or Short-horns; consequently I infer there are no registered pedigrees for any other breed in Canada, such as Devons, Ayrshires, &c., &c. Am I correct in that conclusion? And if so, what are people to think of a statement in the December number of the ADVOCATE with regard to an advertisement of a sale of Ayrshires in Maryborough, consisting of 20 cows of various ages, all with registered pedigrees.

Respectfully, A. K., Winfield P. O., Ont.

[We do not endorse all the statements of the Agricultural Commission, either with reference to herd books or other matters. As a matter of fact there are two Ayrshire herd books in Canada, the one in the Province of Quebec being the better.]

#### PRESERVATION OF WOOD.

SIR,—I consider the following receipt worth ten times the value of your paper:—My first attempt at boiling tar to apply to fence posts resulted in its boiling over and taking fire, thus losing the kettle-ful. I, after this attempt, mixed equal parts of lime and salt together, adding as much of it to the tar as it would take up. This was successful; there was no boiling over, and the fence posts were dipped in to the depth required. I have since taken up some of the posts and found them perfectly sound. I am experimenting as to which end of the post should be placed in the ground. I think timber should be cut in December, January and August, though basswood should be cut in June, as the bark can then be peeled off, and the fence rails made of this wood will last longer than with the bark on. I consider cedar to be the most durable of woods, with swamp oak next.

T. R., Sparta.

#### WILD OATS.

SIR,—Will you give a description of those dreadful "Wild Oats" which I have heard tell of so much, but am not familiar with them, and hope I never shall be if half of the stories I hear about them are true. Will you tell where they are from and anything that would interest any person who is unfamiliar with them, and you will oblige.

J. S., Agincourt P. O.

[We abridge from prize essays on this subject in our issue of February, 1874: "The wild oat is black, grows on a stalk a little taller generally than the common oat, and carries a large spreading head, which, as the kernel ripens, bends the stalk and ripens before the general crop can be secured. To exterminate them plow the ground foul with them as early in the autumn as you can after harvesting the crop, and harrow it. Plow shallow, two inches in depth; this will induce the wild oats that have been shed to germinate freely. A summer following is the most effectual remedy."]

#### THE MANURE HEAP.

SIR,—Please to tell me in your valuable paper if it is any good to throw salt or lime over the manure pile. The manure is all kinds mixed, horse, cow, sheep, pig and fowl, and is out in open air. Stables are cleaned out two or three times a week, and if I sprinkle lime or salt on top each time, will it do any good, and what benefit will I get from it?

J. B. P., Hull, Que.

[Do not sprinkle lime on your dunghill. It tends to deprive it of ammonia. Apply lime to the soil. Salt is of service in the dunghills. It exterminates the larvæ of the numerous insects of which it is the nursery. Gypsum, sprinkled as you say of lime, is valuable; it prevents the loss of ammonia.]

#### WHY ARE EWES SHOWN IN PAIRS?

SIR,—I was glad to see the letter of friend Rivers, in your last issue, on the above question. It is only by discussion that we are likely to arrive at a solution of the question, and I shall be pleased to hear our friends speak out, whether they agree with me or not. Of a large number of breeders whom I have heard express their opinion, Mr. Rivers is the second who has objected to the principle I had advocated. The first was a prominent exhibitor, whose objection was that it would give small breeders a better chance to compete, and that a man with a very small flock might have only one first-class ewe, good enough to win, but could not show a pair that could win. Well, I think that if a small breeder can select one ewe from his little flock good enough to win over the best that can be selected from a large flock, he ought to have a show. I quite agree with Mr. Rivers that the prizes too often go for size instead of quality, and I think that is one of the best reasons why the change should be made, especially in these days when quality of fleece is such an important point, and surely it is more difficult for judges to examine and compare four fleeces than if there only are two? In the next place, if a test of uniformity of fleeces is required, I maintain that two is too small a number; I would go for a pen of five or ten ewes. "The more the merrier." But what I claim is, that in every competitive examination, whether for man or beasts, there ought to be a place where each individual shall be judged on its own merits, without being handicapped by the dead weight of an inferior companion; and, as I stated in my last, this principle is acknowledged and acted upon in every section of our live-stock exhibitions, except in the case of ewes. Why they should be placed upon a different footing from other stock has not yet been explained to my satisfaction. It has been suggested that my objection might be met by offering a sweepstakes prize for the best ewe of any age in each class; but this does not fully meet the case, because the judges have to make allowance for difference in ages, which is always a difficult thing to do. I have no objection to the offering of a prize for the best matched pair, or the best matched ten ewes, as a test of uniformity; but let there also, and first, be a prize for the best single ewe in each section of every class, so that we may not have the absurd spectacle repeated, of the best ewe in the show appearing in a second or third prize pen, and no chance to redeem her character. With regard to the idea that purchasers are more likely to require a pair of ewes than a single one, I may say that my experience has been different, especially with American customers, who only require to show single ewes, and are unwilling to buy the inferior one in a pair, but would prefer to take the best one in each pair to fill two entries; and I know I have seen cases at our shows where a ewe in the second prize pair has been worth more, in my estimation, than both of the first prize pair. The objection that my proposition would tend to diminish the number of sheep brought out, does not apply in this case any more than in the case of other classes of stock, and is fully met by the suggestion to offer flock prizes, and the fact that it will still be open for each exhibitor to make as many entries as he pleases. I have not much respect for "time-honored customs" when they do not square with common sense and the requirements of the times, and we live in a day when such customs get rudely handled when they interfere with progress and improvement.

J. C. SNELL.

SIR,—I notice in the January No. of the ADVOCATE an article, "Why ewes should be shown in pairs." Now, sir, I take a different view of the situation than Mr. Rivers. Firstly.—He admits that judges are "sometimes" fallible, as it is at present. Surely they would be far less liable to mistakes by showing ewes singly; for it would be easier to decide in favor of one than a pair. Is it not just as probable, and more so, that a large, coarse pair might beat a pair of finer quality and smaller size, than when shown singly? Secondly.—Who ever thought of a man showing the quality of his flock by exhibiting one pair of ewes? If that is the case, why is there a prize offered for a pen of sheep? I was always under the impression that a pen was considered as representing the flock. A pair are supposed to represent themselves, nothing more. Did Mr. R. ever see two ewes that were equal in size and quality? Is it not easier to produce one first-class ewe than two? And which would be showing a breeder's skill most? Show-



ing one first class ewe, or two whose merits and defects would have to be balanced, therefore making only a second-class pair, while if one were shown alone it might take first honors, where now it takes a back seat? Now, as to starting with one cow, where is the farmer who would ever think of stocking a farm with that number? He would at the very least want half-a-dozen. And showing cows in pairs appears absurd. Why? Because it is not customary to do so, that's all. It would be just as reasonable as to show sheep in pairs. As to a sow, I think Mr. R. is off the track. See how often a sow breeds and the number at a litter. Any common farmer would have a fair start with one sow; for that reason, a sow bears no comparison to a cow in that respect. I endorse Mr. Snell's theory—show ewes singly as well as a cow. Trample the old-fangled custom in the dirt, and give fair play to all.

AMATEUR, Mildmay, Ont.

#### PROGRESS IN NOVA SCOTIA.

SIR,—I think the *ADVOCATE* has improved much since I first became acquainted with it, and may its shadow never grow less, is the wish of its many friends here. The year that has just passed has been one of marked improvement in our County of Annapolis, showing itself in many ways. All branches of business have been brisk—the export of lumber larger than ever before, the catch of fish large; the apple crop a quarter under an average, but the prices realized more than make up the difference; wheat was raised fully double any former year, and is again becoming a regular crop. It had not been sown to any great extent for a number of years, owing to weevil, but the last three years large fields have been sown, and the yield was good, in many cases ranging from 22 to 25 bushels per acre. Last spring the farmers of Annapolis and Kings formed a company and built a pier at Annapolis (to ship their produce from), 600 feet long, about 56 feet high at the outer end, wide enough for a frost-proof warehouse 350 feet by 36, with a railway track running through it and storage capacity for 11,000 barrels, with a branch railway to it. Now cars can be loaded and run in there with apples for shipment in the coldest weather. The company has shipped 10,000 barrels of apples by one steamer to England, and another of 9,000 barrels' capacity is now loading at the pier. You may think the pier is rather high, but the tide in our Annapolis River rises and falls twice in every 24 hours, to a height of 36 feet, and our ocean steamers require to lay aloft to load, so we have to build out from the bank into deep water, and we have 22 or 23 feet of water at low tide at the end of the pier. The company at present charter steamships, and if they find the dead meat trade, in connection with apples and deals, will pay, they will purchase steamers suited to the trade. Our fruit was not known in England apart from any other American fruit until about three or four years since. Now it is quoted regularly as N. S. fruit, and our Nonpareils are the longest keeping apples to be found; we ship them in April and May, and find our best market then. When you take wing next summer, try and make a flying visit to us here by the sea, and I trust you will like it; but remember, everything here is on a very small scale in comparison with the great Province of Ontario. Still we have many ways of making a living that your neighbors are strangers to. No very poor people and none very rich, but comfortable mediocrity.

W. B., Granville Centre, Annapolis, N. S.

SIR,—Please send me word where I could get a Poland-China and its cost; one about a hundred weight. Would you recommend that breed as being profitable?

M. H., Castlemore.

[Kindly consult our advertising columns. Each breed of pigs has its advocates.]

#### A GOOD REPORT.

SIR,—We have had a very prosperous season, getting what we wanted for our fruit and vegetables. Buyers from the States find this a good market to buy from. Some farmers around here raise from 20 to 80 acres of potatoes, and we have sold over 60,000 cabbage alone this season, beginning on the 30th June. In the fruit line all that we need to be equal with Ontario is to raise peaches. We can raise as good apples and grapes, and even pears. I have four varieties of the last-named fruit—Clapp's Favorite, Flemish Beauty, St. Ghastian and Bartlett. The Flemish Beauty does the best with me.

W. B., St. Henri, Quebec.

#### PEAS.

SIR,—I wish you would give a short article on the culture of peas as a field crop; best kind of soil to raise them on; how much seed to the acre; best kind to sow; is there any way to keep them clear of worms; how to harvest them, and also to thresh; where do they come in a rotation of crops?

R. P., Fort Belcher, N. S.

[A calcareous, or wheat soil, is the best for peas; they will do well on soil adapted to oats. If the soil be too rich it induces a very heavy growth of haulm or straw. The marrowfat for good lands and the small yellow for the poorer lands are the best. It should be planted on a clean fallow or fresh sod well harrowed, just as soon as ground is dry. Usually sown broadcast and covered with about three inches of earth. Cut with the scythe and run, slowly feeding, through a thresher, though they are frequently threshed with a flail. Often sown with oats, and ground up for feeding pigs. The bug is avoided by planting two years' seed, and another way is to pour boiling water on them, stir for a few minutes, and drain off, also by late planting.]

SIR,—I have to thank you for a good crop of peas, sowed on the 4th June; no bugs.

H. M. B., Stratford, Ont.

[Sow your peas as late as June if you would save them from the pea weevil. This is the means whereby H. M. B. saved his peas, acting on the advice given in the *FARMER'S ADVOCATE*.]

SIR,—I would like if you would let me know through your paper what I could purchase a yearling Shropshire ram for in your section, or if such a cross with Leicester ewes would improve the flock or not.

J. E. M. B., Sussex, N. B.

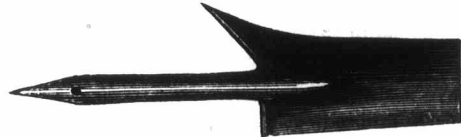
[Consult our Breeder's Directory.]

#### OX-EYE DAISY.

SIR,—I wish you would say something in your paper about how to treat the ox-eyed or white daisy, which is becoming a perfect nuisance in this place.

W. J., Lascelles, Quebec.

[The ox-eye daisy is very difficult of eradication as it is propagated from the root and from the seed. Plowing is, perhaps, the most efficient remedy. They must be cut down without allowing the seeds to ripen. An instrument like this sketch is use-



ful to cut them out beneath the ground. The side projection seems to pull them out after being cut by the blade. It may be made of different sizes, the following being the most useful: width of blade, 2 inches; length of ditto, 4 or 4½ inches. It can be made by a blacksmith, and ringed on to a handle. See that your neighbors' farms are kept free from weeds, otherwise your work will be prolonged.]

SIR,—You want the opinion of your readers with regard to township shows. I would say, if all the shows are carried on as in the township of Grimsby if they were abolished, as the township councils tax them for their support, and the money goes into other townships, while the inhabitants of this township are prohibited from competing in others.

G. M., Grimsby, Ont.

SIR,—I noticed in the January No. your notice to farmers to get all the manure they can get, but you did not mention unleached ashes. I have used them on turnip ground with good results. They are paying 10c. per bushel, delivered on the cars for shipping. Would it pay to buy them at that price? What kind of soil would be most benefited by them, and how much to the acre? If I sell fat stock sometime before delivery, if one or more should die in the meantime, whose loss would it be, the buyer's or seller's, provided there is no neglect?

J. T. B., Mitchell, Ont.

[We consider unleached ashes very profitable; they are usually applied to light soils at the rate of 12 to 15 bushels per acre; to heavy soils, double the quantities. If you are not being paid for the feed to the stock, the loss falls upon the owner; if you are, the contrary is the case.]

#### SOME LESSONS OF THE PAST SEASON.

SIR,—At the occurrence of so unusual a season as the past, the observing farmer finds rare opportunities for testing methods of tillage and management, so as to better understand the true "science of agriculture;" and this science, after all the theories that the professional scientist may promulgate, must from the nature of the case be left to the "tillers of the soil" to become the practical masters of; and when so unusual and universal a drouth occurs as the one of the past season, their observations and reckonings should be as definitely taken as those of the star-gazers at the "transit of Venus." But at this time I would only call attention to the lessons of tillage (and the want of it) which were so abundant and so plain to all, as to be definitely noted at the time, and would ask that correspondents, by stating facts in the case, and the agricultural press, by publishing it, so keeping it before the people that it will not be soon forgotten. In my farm management, I have of late years become more and more convinced that more tillage, especially for our hoed crops, was needed for their best and most profitable development; so much so, that for the loss I should expect by slacking up the cultivating, I didn't have to do it even enough to try the experiment, but I obtained abundant proof of this in many other ways, and especially in such a season as the past it could be seen everywhere. It was only on the best tilled summer fallows that the wheat would germinate after sowing, until after the rains, which came here near a month after; the crops of corn, beans and potatoes, all were much better where the farmers kept up proper tillage of these crops through the dry time, by thus retaining the moisture in the soil and keeping it in good condition for the growing plants; whereas other farmers finding it so dry that the weeds did not grow to trouble them, thought there was no need of more tillage, and their crops for the lack of it were more or less deficient. In a field of eight acres of corn I noticed they only hoed about one acre, and thought the rest clean enough to do without hoeing, but was not half tilled as it should have been, and yielded about half what it should have done, but this acre yielded about as much as all the rest of the field. The bean crop this year showed about the same difference in favor of tillage, yielding from four to twenty-four bushels to the acre. Potatoes, which is one of our principal crops here, varied in yield more than any other crop, which was caused principally by management and tillage, many fields only yielding thirty to sixty bushels an acre; while others receiving good tillage and under good management yielded 125, some 175, and a small piece where bone-meal fertilizer was used, with good soil and tillage, yielded at the rate of 250 bushels. One farmer with six acres had a thousand bushels, nearly all large and saleable; another planting thirty-four acres only had about the same, but half of them small; one of our best farmers had nine thousand bushels from his seventy-five acres. The variations in these yields was due largely to tillage and to the want of it. There was a particular test of good farming showed itself this peculiar season, which does not often occur. That was when it became so dry that the weeds did not germinate and grow any more in their hoed crop, these farmers continued to cultivate just the same, so as to give their crops the benefit of the tillage; while another class of farmers, who only think that cultivating is necessary for the suppression of weeds and fowl growth, stopped their tillage of these crops when the weeds stopped growing, and their crops were left to suffer for the want of tillage, and that at a time when they needed all their conditions for development to be the very best. For this class of farmers weeds have their uses, warning them out to do the tillage which their crop requires; but the other class of farmers till such crops often and well, because it is best for the crop, and by doing this will find they have very little trouble with weeds.

A. S. Ives, Batavia, N. Y.

SIR,—If a person is appointed executor to a will is there any law to compel him to act when the heirs request him not to act?

J. E. B., Westnewanna, N. S.

[No; and the Court will appoint one.]

#### NORMAN HORSES.

SIR,—I would like to know whether there is any difference between the Norman and the Norman-Percheron horses?

M. P., Staffordtown, Ont.

[We are not aware of any difference, and we cannot say which is the best.]



## NORTHERN NURSERIES.

SIR,—In answer to J. B. W.'s inquiry in the January number of the *ADVOCATE*, on page 21, about a nursery 45° north latitude, I have got a small nursery 45½° north latitude, in the Ottawa valley, 60 miles north-west of Montreal. My experience in growing apple trees extends backward about 12 years. I have supplied my neighbors with trees, which are all doing well, and they will testify to what I say. Thousands of dollars were paid by parties here for trees got from southern nurseries, which have all died. I grow the following varieties:—For summer—Letofsky and Duchess of Oldenburg; for autumn—Alexander, Plumb's Apple and Peach Apple, of Montreal; early winter—Fameuse or Snow Apple; late winter—Golden Russet, Walbridge, Pewaukee, Canada Baldwin and Ben Davis, and several varieties of crabs. *Keep the duty on corn.*  
H. S., Little Rideau.

## FRUIT TREES.

SIR,—Seeing a communication from J. B. W. regarding fruit trees being killed down and seeing that he states that it is because the trees come from southern nurseries, I would say that my experience is different, as I have some that have done remarkably on P. E. Island. I found a large majority of the trees were killed by being planted too deep.  
A. G., Little York, P. E. I.

SIR,—In reply to inquiry of J. B. W., North Ontario, it might be some trouble to a man to find a nursery north of parallel passing through Muskoka Lake. We have sent trees to Muskoka which we think are doing fairly. If J. B. W. will write the Markham Nursery he may find a supply of strong-grown apple trees—prime hardy kind—and hints, which we confidently believe, if carried out, will result in success.  
L. C., Markham, Ont.

SIR,—You will confer a compliment on me if you would insert a remedy for killing ticks on sheep in your next issue of the *ADVOCATE*. By so doing you will much oblige yours truly,  
J. A., Westport, Ont.  
[The Leicestershire Tick Destroyer of Briggs & Son, Hamilton, Ont., is recommended. Try it.]

SIR,—Farming news is scarce at present. We have an agricultural society in this place called "Clement Agricultural Society," which has a membership of nearly fifty; we can also boast of a farmers' club, having a membership of about thirty. Perhaps I may be able to send you some items at a future time.  
H. W. D., Annapolis, N. S.

## WINTERING BEES.

SIR,—I have wintered from 30 to 35 hives of bees for 15 years, and have only lost 3 or 4 in all that time; they got out of honey and starved. Of course that was bad luck for the bees, but it was neglect and bad management on my part, and I say that when bees are lost in wintering that there must be some neglect or bad management. I have wintered 15 cows for 15 years, and have lost 3 in that time, which is more than double the loss of the bees, and I have tried to take as good care of the one as the other. If any one wishes to know how I winter my bees, they must write to me and let me know, for I won't take the time to write a long letter to the *ADVOCATE* until I first know whether any one wishes me to do so or not.  
L. S., Cornhill, via Anagance, N. B.

[We, on behalf of our subscribers, would be glad to have the information.]

SIR,—Those of us who have raised sugar beets this year have fattened our hogs on them this winter, by boiling them up and mixing some bran or chopped stuff with them, and they can't be beat; it paid big this year, as corn is scarce and dear. I would just say here that this is a bad year to test the question of duty or no duty on corn, as it is a failure all over—the first year I ever knew it to be such a poor crop in the west. Though I am one that would say, keep the duty on corn and oats, I would just as soon have had it off this year; but it will be all right another year, I hope.  
W. H. A., Ridgetown, Ont.

[Your question as to whether beet-root sugar factories have been profitable, can only as yet be answered, no—in so far as regards this continent.]

## CORN.

SIR,—As I see a note as to seed corn in December number, I will give a few suggestions. I have had quite an experience in raising corn, and scarcely ever failed. When the corn becomes properly glazed, cut the stalks and set in small stooks; when dry enough to husk, and at the time of husking, select such ears as are full to point and sound; leave the husks on so as to tie together; hang in a warm, dry place, where mice cannot get at it, and I will warrant it to grow every time. I have planted corn saved this way five years old, and it grew every time. This year my neighbors planted from one to three times, and I only once, and had a good crop considering the dry season. To kill all kinds of bushes, cut while the leaf is to its full size, or in the month of July, about the middle of the month.  
T. R., Mossie P. O.

[We have frequently published lists of desirable fruits at various times in the *ADVOCATE*. The selection of fruits you name is good. By consulting the lists of nurserymen of repute, you can increase the number of varieties, taking care to avoid the fault of having too many. The prices quoted for the books you name are net—no discount.]

SIR,—Can you inform me whether a pathmaster can cut down trees opposite his own property on the roadside?  
H. R. S., Toronto, Ont.  
[Your question is too indefinite. If the interests of the road require it he can do so. He has to have a valid reason for his actions.]

## HO! MANITOBA HO!

SIR,—A constant and interested reader of the *FARMER'S ADVOCATE* I have been for years, and as such send you these lines. It is somewhat difficult to write anything new or striking of this illimitable waste. It has been so often and so thoroughly described that I can only give you personal impressions, together with a few facts divested of the exaggerated rose-colored hues in which they have been painted by the local press, and by travellers who have visited it, without seeing or experiencing any of the inconveniences usually attendant upon such visits. One of the greatest advantages enumerated here is the fertility of the soil. This is true, but it is not to be forgotten that there are large areas which are alkaline, and necessarily of a sterile character; that there is also a large quantity consisting of wet lands, muskegs, etc. As to the depth of the fertile soil, I do not see that there is a great deal in that; a fertile soil two feet deep is fully equal to one thirty feet deep. After the fertility has been extracted from the first foot it is necessary to invert the second foot—evidently a very costly proceeding. The comparative scarcity of wood and water is a very serious objection to this country. The planting of trees upon these prairies is a work of years, as the trees can be but slowly developed, owing to their being retarded by their exposed position. Fruit trees will be a novelty for a century. As to water, I am told good water can be obtained at a depth of 60 feet. I thanked my informant for the fact, and thought it foretold a very unsatisfactory outlook. A 60-foot well is rather deep! I should prefer, in that case, to leave well alone. Of course, there are favored portions, but not to the extent interested parties would lead people to believe, and I am creditably informed that the main line of the Canadian Pacific R. R. is located through an extremely poor agricultural belt of country. As a farmer, I should advise intending immigrants to purchase well to the north of the main line till they are near the Saskatchewan. There are also wet seasons, and should one occur this coming spring here, those who have lots in the vicinity of Winnipeg will be paddling over them in canoes.

The land speculation here is a "cranky" craze, which is furthered by the specious efforts of irresponsible speculators and real estate dabblers. Property changes hands at increased figures, and very large profits are made—on paper. False prices are inserted in deeds to give a false idea of the value; and property is most certainly far beyond its legitimate value. The future of Winnipeg has most certainly been discounted for a decade of years. Since I have been up here there have been numerous deaths from typhoid fever, and I saw last fall very many persons afflicted with jaundice, caused by the use of the wretched water. The drainage of the town is most lamentable, and with the approach of warm weather it is an almost absolute certainty that an epidemic will take place. The hotel accommodation (?) here is woefully deficient as yet. The mud here in wet weather is

something abominable, and so sticky! I was speaking to an old resident the other day, and he mentioned the *FARMER'S ADVOCATE* as having pitched into Winnipeg mud by publishing a somewhat amusing picture of carts, etc., stuck therein. He said it raised quite a storm of anger, and that the press said it was a libel. I asked him how they could deny it. He said, of course everybody knew it was true, that Winnipeg mud was the most abominable kind, that the country was full of black flies and mosquitoes, but Winnipeggers did not wish it known, and that the local press concealed every fact in any way opposed to the glowing accounts usually published. Any items of people freezing to death, or small-pox in Winnipeg, were carefully suppressed. There is, notwithstanding drawbacks, a future before Winnipeg and the North-west, but it will not be made the most of by deception and lies. Do not believe that it is all fertile—it is not, by any means; do not believe it is not cold—it is cold and dreary; but every place has drawbacks, and the North-west is not Paradise.

A SETTLER.

Rossin House, Winnipeg, Man.

SIR,—I think that you are rather too severe on Manitoba; it seems to me that you never miss having a slap at the youngest child. You have seen a little of her, and that at her very worst, and have not failed to show her up. But just think of what you have seen in the great Ontario. I recollect seeing a horse and cart, without any load, stuck fast in Parliament street, Toronto. Is it then any wonder to see a horse stuck in a country now and then in a state of nature? Years ago I have seen many roads in Ontario as bad, if not worse, than any part that I ever saw in Manitoba. For those reasons I nearly regret that you paid us a vi-it.  
J. W., High Bluff, Man.

SIR,—Fall wheat was badly killed out in this part of the country, but spring crops turned out well; fall wheat looks well now. What kinds of spring wheat are the best to sow? White Russian and Lost Nation did well with us last year.  
J. C. Clinton.

[In one locality certain varieties are good, and fail elsewhere. The following are valuable kinds of spring wheat: Black Sea Wheat, of which there are two varieties, one with red, and the other with white chaff; your White Russian may be the latter. The Siberian is also good, being a fine bearer, with a full, fine grain. Also the Italian, which is giving way to the varieties mentioned. We are pleased to receive your crop reports, short as they are.]

## RETENTION OF PLACENTA.

SIR,—I have a cow that had a pair of twins lately; one came dead. She calved before her time, and was not doing well some time before she calved. She did not clean (as we call it), and the cow continued to fail. Could you inform me through your paper what is best to do to rid the cow of the trouble, and put her in good health again. Such cases are quite common here.  
C. E., Canard P. O., N. S.

[The placenta, when it does not come away itself in 12 hours, should be removed by some competent person. When the cow has gone her natural time there is not much difficulty in removing it; but in cows that have slinked or lost their calves before the natural time, great care is needed on the part of the operator, to pay every attention to her throes or after pains, which will assist him greatly in removing it, but if he counteract her efforts he will expose himself to a great many disadvantages. The operator will take hold of the umbilical cord, and when the cow strains he will draw it gently forward, if only a few inches at a time, when it will all come at once. If it does not yield to this, it will be necessary to pass the hand into the womb to the several attachments, which are gently pressed between the fingers with a kind of rotatory motion, when detachment readily occurs.]

SIR,—Please state if a black instead of flesh colored muzzle in a Shorthorn is a mark of cross breeding, and oblige,  
T. C. A., Fergus, Ont.

[Purity may be ascertained from the color of the skin. The bald skin on the nose is always definite and without spots. In the Shorthorn it is usually a yellow cream color, and if the blood is not pure, it is usually clouded with spots.] We give the above remarks, but would prefer to have the views of some of our Shorthorn breeders as to whether a black muzzle is really a blemish.]



## INFLUENZA.

SIR.—I have a valuable three-and-a-half-year-old colt which has had a cough for about six weeks. It is not a very hard cough, but is hard to get rid of. I have been applying tar to his bits, which appears to help him for a short time, and then he begins again worse than ever. He appears well in every other way except a slight running at the nose. What can be the cause, and what will help him? He is of good breed and has been well cared for.

Subscriber, Bayfield, N.B.

[Your animal, no doubt, is affected with a species of influenza or distemper, which is a common affection among young horses at this season of the year. Treatment—keep the animal in a warm and well ventilated stable, feed on warm and easily digested food, such as scalded bran, boiled oats or barley. A little flax seed meal daily would be beneficial. Give a powder every night made as follows: Digitalis,  $\frac{1}{2}$  drachm; camphor,  $\frac{1}{2}$  drachm; nitrate potash,  $\frac{1}{2}$  drachm in warm feed. Have the throat rubbed with some stimulating liniment every day.]

## OSTEA SARCOMA.

SIR.—I have several young cattle from time to time that take a lump under their jaw bone, which gets quite hard and grows to the bone. It increases in size, then breaks and heals up, then breaks again. Three of my cattle are affected so at present. If you will be kind enough to give me any information about them through the columns of your paper, you will oblige.

Subscriber, Mohr's Corners, Ont.

[Your animals are troubled with a disease called Ostea Sarcoma, which is a common disease among cattle in this country. It consists of a tumor, partly fleshy and partly bony, occurring on the jaws and ribs, but all bones are liable to it. We are inclined to consider this a constitutional disease of bone, but it is often brought on by external injury, or in the jaws by a diseased tooth being fractured or decayed; food getting into the cavity causes irritation, and the bony texture becomes diseased, hence the tumor. It frequently enlarges until all the bones of the face become diseased; as a consequence, he cannot masticate his food and becomes weak and emaciated, and in time death ends his sufferings. We would not recommend treatment, but would advise them to be fed off as soon as possible for the butcher, as the health in the first stages of the disease is seldom impaired.]

## RINGWORM.

SIR.—Can you tell me what is the matter with my cattle? The hair comes off in round spots and the skin has a rough appearance. Is it ringworm? What is good for them? They appear to be in good health and eat heartily.

C. T., Orillia, Ont.

[Ringworm is a parasitic growth of organic cells in the surface of the skin. It is a disorder that all domestic animals are subject to. Like other diseases of the skin it is generated by uncleanness, and is communicable from the lower animals to man, and vice-versa. Symptoms—The hair falls off in spots, leaving small and apparently ulcerated patches, which appear white and scaly, and have a peculiar tendency to spread. The coat of the animal becomes dry and dirty looking. Treatment—The general health of the animal should be attended to; keeping the skin clean; the affected parts may be touched by a mild caustic once or twice a week, and dressed afterwards with sulphur ointment. Some recommend dressing with tincture of iodine; others with a solution of corrosive sublimate; others with a solution of sulphate of zinc.]

## BOG SPAVIN.

SIR.—I have a valuable young mare that is bogged on both hind legs. Some folks say that it is bog spavin, and some say it is blood spavin. Please let me know if either of them or thorough-pin can be cured.

R. M., Auburn, Ont.

[Bog spavin in young animals often disappears itself without treatment, but in older ones it will be necessary to assist nature in carrying off the superfluous fluid collected within the capsular ligament. Keep the animal quiet, use cooling astringent lotions to the hock. A very good lotion is made as follows: Saltpetre 2 ounces, sal ammoniac 2 ounces, common salt 4 ounces, spring water 1 pint. This should be applied three or four times a day; pressure to the part is beneficial. When this has been done for a time, if the bog spavin is not all gone, it will be necessary to blister it.]

## TREES WITH WET FEET.

SIR.—We have a plot of land which was planted with apple trees five years ago, and the land is low and wet, and no means of draining without going to the expense of digging a well for the drainage to run into. We were thinking of hauling earth on to the land to raise it. The soil is heavy, but rich. What kind of soil would be best to put on it? Would it hurt the trees to put the soil around them, as we want to raise it about two feet in some places, in others about a foot, but would not be able to put it all on in one year. Would it be better to take the trees up and replant them at the desired level, and when? The trees have not yet come into bearing, but have made a large growth of wood.

P. L. D., Charlottetown, P.E.I.

[The hauling in of surplus earth would most emphatically not answer; it is absolutely necessary that the surface soil and subsoil be dry, so as to be successful in fruit growing. Trees with wet feet may show a good growth of wood for a year or two, but will inevitably be attacked with black rot, insects and moss, causing them to wilt and die. The ground must be drained, either naturally or artificially, before any success can be gained. The addition of earth might be beneficial to level the surface, but must not be gathered up around the trees. It would also improve the soil, if it were necessary to do so. Fruit trees in wet ground have always been complete failures, and the yield entirely worthless.]

SIR.—I have a young mare that has a ringbone coming on. Please answer, so that I can do something for it in time.

J. T., Holt P. O.

[You will find your question answered in the January No., page 20.]

## General Items.

The mildness of the season in England has bewildered the birds. A sparrow was found at Hampton the middle of December sitting on four eggs in her nest.

The champion animal at the Birmingham Fat Stock Show was a Hereford steer thirty-two months old, weighing 1,950 lbs., and winning prizes valued at nearly \$1,000.

Gather no seed from a forest tree that is not clean and straight and a rapid grower. Scrub trees beget their like. The law of heredity holds good in trees as well as in the lower animals and men.

An American authority in Illinois charges that "hundreds of refuse and worthless grade horses have been brought from Canada to the States during the year, and palmed off as pure blood Clydesdales."

A correspondent of the Michigan Farmer says that the packages of "ozone powder," made up of sulphur, charcoal and a pleasant dash of cinnamon, are "not worth five cents apiece."

It is said that many of the patrons of the Western creameries are crossing their common cows with Jersey blood, with a view to increasing their value as milk and butter producers.

If you would be a strong writer, be brief; if you would catch the public ear, be brief. Writers may feel flattered on seeing their names signed to long articles, but be assured that they have few readers.

A branch of farm labor specially adapted to a warm winter is that of getting rid of loose stones. All stones that are not frozen in unsightly stone piles or wall should be removed while teams and men are not busy.

Close rows of hardy evergreens to the north and west of your homes will shelter you from the piercing winds of winter. Two hundred trees three feet high, costing \$15 and half a day's work for two men in planting, in ten years will give a shelter fifteen feet high.

The "hog butter" factories in Cleveland, O. have more orders than they can fill. The manufacturers are honest in selling the article for just what it is, but some of the dealers who buy of them let it slide for genuine dairy product.

The Government of Australia pays sixpence per dozen for sparrows' heads, and two shillings per hundred for their eggs. The birds were introduced only a few years ago, and have multiplied so rapidly that they damage the fruit and grain crops seriously.

The British Dairy Farmers' Association plan establishing a traveling dairy, like the ones in Ireland. Of the £150 or £200 thought necessary for a first outlay to such a scheme £100 was subscribed at the late meeting.

Meat shipments from Australia to London by cold air process have resulted satisfactorily. The fresh mutton, a large quantity of which was sold at Smithfield, was in excellent condition, and brought seven pence a pound. Beef, also, was almost perfectly preserved.

Owing to the high price of feed for stock, there are heavy shipments of "salt hay" being made from the New Jersey marshes. Formerly it was considered scarcely worth taxing, but the growing demand for hay has given it a value which it never before possessed.

For more than twenty years past, a farm has been run in Germany, by the use of purchased fertilizers solely. Forage crops are grown and fed to animals, and the manure sold to market gardeners at a paying price. The chief business of the farm has been the manufacture of manure to sell.

He planted half a dozen small potatoes in the bottom of each hole dug for the trees. These grew up, and shaded and loosened the ground, and the consequence was that not a single tree thus treated was injured by the hot dry summer, while all those not treated in this manner died.—[Northwestern Farmer.]

An English mechanic has invented a horseshoe composed of three thicknesses of cowhide compressed into a steel mold and subjected to a chemical preparation. It will last longer than the common shoe, weighs only one fourth as much, does not split the hoofs, requires no calks, and is very elastic.

The question of driving horses barefoot is being seriously agitated in England, and the papers call upon some public-spirited horse-owner to try comparative experiments of the ordinary plan of driving nails into the living substance of the horse's hoof, of the Charlier method of using clumps, and lastly, of the hoof in natural condition. That iron shoes have been so long used does not necessarily prove them to be indispensable, more than in the case of blinders, without which the last generation scarcely ventured to drive at all.

## Farming for Boys.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

## CHAPTER II.

ALL FARMING IS A JOB—GIVING BOYS A CHANCE—WORKING ONE'S WAY UP.

Tony King was particularly struck with the improvement in the coffee-mill, for his knuckles had received a full share of the general skinning; and when the job was done, turning to the old man, he said, "O, Uncle Benny, won't you teach me to do such things before you do all the odd jobs about the farm?"

"Never fear that all the odd jobs about any farm, and especially such a one as this, are going to be done in a hurry," he replied, laying his hand gently on Tony's head. "If the owner of a farm, I don't care how small it may be, would only take time to go over his premises, to examine his fences, his gates, his barn yard, his stables, his pig-pen, his fields, his ditches, his wagons, his harness, his tools, indeed, whatever he owns, he would find more odd jobs to be done than he has any idea of. Why, my boy, all farming is made up of odd jobs. When Mr. Spangler gets through with planting potatoes, don't he say, 'well that job's done.' Didn't I hear you say yesterday, when you had hauled out the last load of manure from the barn-yard—it was pretty wet and muddy at the bottom, you remember—'There's a dirty job done!' And so it is, Tony, with everything about a farm—it is all jobbing; and so long as one continues to farm, so long will there be jobs to do. The great point is to finish each one up exactly at the time when it ought to be done."

"But that was not what I meant, Uncle Benny," said Tony. "I meant such jobs as you do with your tools."

"Well," replied the old man, "it is pretty much the same thing there. A farmer going out to hunt up such jobs as you speak of will find directly that, if he has no tool-chest on hand, his first ownership will be to get one. Do you see the split in



that board? Whoever drove that nail should have had a gimlet to bore a hole; but having none he has spoiled the looks of the whole job. So it is with everything when a farmer undertakes any work without proper tools. Spoiling it is quite as bad as letting it alone.

"Now come out into the yard," continued the old man, "and let us see what jobs there are yet to do."

He led the way to the wood-shed. There was an axe with only half a handle; Tony knew it well, for he had chopped many a stick with the crippled tool. Uncle Benny pointed to it with the screw-driver that he still carried in his hand, but said nothing, as he observed that Tony seemed confounded at being so immediately brought face to face with what he knew should have been done six months before. Turning round, but not moving a step, he again pointed with the screw-driver to the wooden gutter which once caught the rain-water from the shed-roof and discharged it into a hog-head near by. The brackets from one end of the gutter had rotted off and it hung down on the pig-pen fence, discharging into the pen in a cad into the hog-head. The latter had lost its lower hoops; they were rusting on the ground, fairly grown over with grass. The old man pointed at each in turn; and looking into Tony's face, found that he had crammed his hands into his pockets, and was beginning to smile, but said nothing. Just turning about, he again pointed to where a board had fallen from the further end of the shed, leaving an opening into the pig-pen beyond. While both were looking at the open place, three well-grown pigs hearing somebody in the shed, rose upon their hinder feet, and thrust their muddy faces into view, thinking that something good was coming. The old man continued silent, looked at the pigs, and then at Tony. Tony was evidently confused, and worked his hands about in his pockets, but never looked into the old man's face. It was almost too much for him.

"Come," said Uncle Benny, "let us try another place," and as they were moving off, Tony stumbled over a new iron-bound maul, which lay on the ground, the handle having been broken short off in its socket.

"How the jobs turn up!" observed Uncle Benny. "How many have we here?"

"I should say about five," replied Tony. "Yes," added the old man, "and all within sight of each other."

As they approached the hog-pen, they encountered a strong smell, and there was a prodigious running and tumbling among the animals. They looked over the shabby fence that formed the pen.

"Any jobs here, Tony?" inquired Uncle Benny.

Tony made no answer, but looked around to see if the old man kept his screw-driver, half hoping that, if he found anything to point at, he would have nothing to point with. But raising the tool, he poised it in the direction of the feeding-trough. Tony could not avert his eyes, but, directing them towards the spot at which the old man pointed, he discovered a hole in the bottom of the trough, through which nearly half of every feeding must have leaked out into the ground underneath. He had never noticed it until now.

"There's another job for you, Tony," he said. "There's not only neglect, but waste. The more hogs a man keeps in this way, the more money he will lose. Look at the condition of this pen—All mud, not a dry spot for the pigs to fly to. Even the sheds under which they are to sleep are three inches deep in slush."

"But I thought pigs did best when they had plenty of dirt about them, they like it so," replied Tony.

"You are mistaken, Tony," rejoined Uncle Benny. "A pig is by nature a cleanly animal; it is only the way in which some people keep him that makes him a filthy one. Give him the means to keep himself clean, and he will be clean always—a dry shed with dry litter to sleep in, and a pen where he can keep out of the mud when he wants to, and he will never be dirty, while what he eats will stick to his ribs. These pigs can't grow in this condition. Then look at the waste of manure! Why, there are those thirty odd loads of cornstalks, and a great pile of sweet-potato vines, that Mr. Spangler has in his field, all which he says he is going to burn out of the way, as soon as they get dry enough. They should be brought here and put in this mud and water, to absorb the liquid manure that is now soaking into the ground, or evaporating before the sun. This liquor is the best part of the manure, its heart and life; for nothing can be called food for plants until it is

brought into a liquid condition.

"Now, Tony," he continued, "you can't do anything profitable or useful in this world without some trouble; and as you are to be a farmer, the sooner you learn this lesson, the more easily you will get along. But who is to do that job of putting a stopper over this hole in the trough, you or I?"

"I'll do it to-morrow, Uncle Benny," replied Tony.

"To-morrow? To-morrow won't do for me. A job that needs doing as bad as this, should be done at once; its one thing less to think of, don't you know that? Besides didn't you want to do some jobs?" rejoined Uncle Benny.

Tony had never been accustomed to this way of hurrying up things; but he felt himself fairly cornered. He didn't care much about the dirt in the trough; it was the unusual promptness of the demand that staggered him.

"Run to the house and ask Mrs. Spangler to give you an old tin cup or kettle—anything to make a patch big enough to cover this hole," said Uncle Benny; "and bring that hammer and a dozen lath-nails you'll find in my tool-chest."

Tony did as he was directed, and brought back a quart mug with a small hole in the bottom which a single drop of solder would have made tight as ever.

"I guess the swill is worth more to the hogs than ever a new mug would be, Tony," said Uncle Benny, holding up the mug to the sun, to see how small a defect had condemned it. Then, knocking out the bottom and straightening it with his hammer on the post, he told Tony to step over the fence into the trough. It was not a very nice place to get into, but over he went; and the nails and hammer, being handed to him, he covered the hole with the tin put in the nails round the edge, hammered the edge flat, and in ten minutes all was done.

"There, Tony, is a six months' leak stopped in ten minutes. Nothing like the present time—will you remember that? Never put off till to-morrow what can be done to-day. Now run back with the hammer and those two nails, and put this remnant of the tin cup in my chest; you'll want it for something one of those days. Always save the pieces, Tony."

This survey of Mr. Spangler's premises was continued by Uncle Benny and Tony until the latter began to change his opinion about the farmer doing up the odd jobs so thoroughly that none would be left for him. He saw there was enough for both of them. The old man pointed out a great many that he had never even noticed; but when his attention was called to them, he saw the necessity of having them done. Indeed, he had a notion that everything about the place wanted fixing up. Besides, Uncle Benny took pains to explain the reasons why such and such things were required, answering the boy's numerous questions, and imparting to him a knowledge of farm wants and farm processes, of which no one had ever spoken to him.

He used to say, that boys do only what they see the men do—that all they learned was by imitation. They had no opportunity allowed them while at home of testing their own resources and energies by some little independent farming operation of their own. When at school, the teacher drills them thoroughly; when at home they receive no such close training. The teacher gives the boy a sum to do, and lets him work it out of his own resources. But a farmer rarely gives a boy the use of a half-acre of land, on which he may raise corn or cabbage or roots for himself, though knowing that the boy could plant and cultivate it if he were allowed a chance, and that such a privilege would be likely to develop his energies, and show of what stuff he was made. The notion was too common that a boy was all work, and had no ambition—whatever work was in him must be got out of him, just as if he had been a horse or an ox. It was known that at some time he must take care of himself, yet he was not properly taught how to do so. The stimulant of letting him have a small piece of ground for his own profit was too rarely held out to him. No one knew what such a privilege might do for an energetic boy. If he failed the first year, he would be likely to know the cause of failure, and avoid it in the future. If he succeeded, he would feel an honest pride—the very kind of pride which every father should encourage in his child; and that success would stimulate him to try again and do still better. Both failure and success would be very likely to set him to reading about what others had done in the same line—how they had prospered—and thus a fund of knowledge would be acquired for him to draw upon whenever he set up for himself.

One November morning there came on a heavy rain that lasted all day, with an east wind so cold as to make the barn a very uncomfortable reading room, so the boys adjourned to the kitchen, and huddled around the stove. But as the rain drove all the rest of the family into the house, there was so great an assembly in what was, at the best of times, a very small room, that Mrs. Spangler became quite irritable at having so many in her way. She was that day trying out lard, and wanted the stove all to herself. In her ill-humor at being so crowded up, she managed to let the lard burn; and at this she became so vexed that she told Tony with Joe and Bill, to go out—she couldn't have them in her way any longer.

They accordingly went back to the barn, and lay down in the hay, covering themselves with a couple of horse-blankets. These were not very nice things for one to have so close to his nose, as they smelt prodigiously strong of the horses; but farmers' boys are used to such perfumes, and they kept the little fellows so warm that they were quite glad to escape the crowd and discomfort of the kitchen. These became at last so great, that even Uncle Benny, seeing that he was not wanted there just then, got up and went over to the barn also. There he found Tony reading aloud from a newspaper that had been left at the house by a pedlar a few days before. Tony was reading about the election, and how much one set of our people were rejoicing over the result.

As Uncle Benny came into the barn Tony called out, "Uncle Benny, the President's elected—did you know it?"

"O yes, I knew it; but what President do you mean?" responded Uncle Benny.

"Why, President Lincoln. He was a poor boy like me, you know."

"But can you tell me, boys," asked Uncle Benny, "who will be President in the year 1900?"

"Dear me, Uncle Benny," replied Tony, "how should we know?"

"Well, I can tell," responded the old man.

The boys were a good deal surprised at hearing these words and at once sat up in the hay.

"Who is he?" demanded Tony.

"Well," replied Uncle Benny, "he is a boy of about your age, say fifteen or sixteen years old."

"Does he live about here?" inquired Bill, the youngest of the party.

"Well, I can't say as to that," answered the old man, "but he lives somewhere on a farm. He is a steady, thoughtful boy, fond of reading, and has no bad habits; he never swears, or tells a lie, or disobeys his parents."

"Do you think he is as poor as we are, Uncle Benny?" said Tony.

"Most likely he is," responded the old man. "His parents must be in moderate circumstances. But poverty is no disgrace, Tony. On the contrary, there is much in poverty to be thankful for, as there is nothing that so certainly proves what stuff a boy is made of, as being born poor, and from that point working his way up to a position in society, as well as to wealth."

"But do poor boys ever work their way up?" inquired Tony.

"Ay, many times indeed," said Uncle Benny. "But a lazy, idle boy can do no such thing—he only makes a lazy man. Boys that grow up in idleness become vagabonds. It is from these that all our thieves and paupers come. Men who are successful have always been industrious. President Lincoln for a long time split rails at twenty-five cents a hundred. But see how they got up in the world."

"But I thought the Presidents were all lawyers," said Tony.

"Well, suppose they were," replied Uncle Benny; "they were boys first. I tell you that every poor boy in this country has a great prospect before him, if he will only improve it as these men improved theirs. Everything depends on himself, on his own industry, sobriety, and honesty. They can't all be Presidents, but if they should all happen to try for being one, they will be very likely to reach a high mark. Most of the rich men of our country began without a dollar. You have as fair a chance of becoming rich or distinguished as many of them have had. You must always aim high."

"But how are we to make a beginning?" demanded Joe.

"I'll tell you," replied Uncle Benny. But at that moment a loud blast from the tin horn summoned them to dinner. They all thought it the sweetest music they had heard that day, and hurried off to the house.

(To be Continued.)





The Family Circle.

"Home, Sweet Home."

Constance Leslie's Bouquet.

CHAPTER I.

"I say, Fred, old fellow, what do you think of spending a fortnight with me at my uncle Ben's country house? Lots of balls, private theatricals, skating, and no end of fun; besides a whole crew of pretty girls—Christmas in the good old style. Say 'Yes'—do."

"Heigho," exclaimed Fred, "what a delightful programme! It may be all very well for you; but how would your uncle like you to take down a friend like me, with hardly a brass farthing to bless himself with, a seedy suit of dress clothes, and an old pot hat?"

"Don't be a fool, Fred!" said Harry, laughing. "Things are not so bad as that; and you are such a confirmed old bachelor that there's no fear of your falling in love with any of the Squire's pretty daughters, nieces, or any other charming young female staying at the Manor House. He told me to take down any friend I liked—and who so great a chum as you?"

"Well, I've no objection; and I do believe a few days' holiday would do me good. At any rate, I'll try the experiment; for, as you say, I'm turning into a crusty old bachelor before I'm thirty. Two hundred per ann. in these hard times is rather trying to one's system."

"Now look here, Fred," said Harry Cleve, "don't show up blue, but just put your rusty old law-books away for the next few weeks, and we'll have a regular bender—"

Cheer, boys, cheer—no more of idle sorrow; Law-books-to-day, but pretty girls to-morrow!

Pack up your rattle-traps, and we'll be off by the 11-45 to-morrow morning; we'll drop the Squire a line to that effect. Good-bye, old chap—meet me at the station in good time."

"Trust me for that—I won't fail you," replied Fred; "so adieu till then."

Harry Cleve, nephew to Squire Grantly, of the Manor House, Ravenhill, a small but pretty village in the West of England, was a tall, handsome young man of three-and-twenty. He was rather lazy, and fond of ingratiating himself with the fair sex, but thoroughly kind-hearted and steady, and enjoyed a comfortable little income of eight hundred a year, besides being junior partner in an old-established firm in London; whilst poor Fred Vane, with his paltry two hundred, and but few relatives who took any interest in him, was studying for the law. He was a tall, strong fellow, of handsome, yet possessing a splendid pair of honest brown eyes and a good, kind face, which, seen once, instinctively might be trusted!

"Come, Fred, jump in—be quick! I've got your ticket," said Harry Cleve, and the two friends met next morning at the station; "I fully expected you would be late. Isn't it a glorious day? Hand us over a weed, old fellow. I call this jolly, having a carriage to ourselves."

"Upon my word," said Fred Vane, after puffing away at his cigar during five minutes of meditative silence, "joking apart, I feel half afraid to go amongst so many strangers—so many of the fair sex. I wish I had a little of your self-confidence."

"Wish something better whilst you are about it," returned Harry, "but don't be such a muff. I'll steer you clear of them all; and you needn't show up until dinner is on the verge of being announced. Then I will introduce you to my stately but kind aunt, Lady Margaret—the Squire's second wife, you know; she will immediately go through the ceremony between you and the fair damsel whom you are to take to dinner, and, before you know where you are, you will be sitting by the side of a jolly girl, doing the attentive most beautifully. As for me," continued Harry, "I only hope Marion Erl will fall to my lot. I was desperately bitten last winter, and I flattered myself she was a little bit gone too. I haven't seen her since, for she was sent for home on account of her mother's sudden illness. I wonder if she will have forgotten me. Now don't laugh in that provoking way, old bear—I'll be bound you have never felt a bit spoony in your life."

"Not I, Harry, my boy; and what would be the use of my falling in love, when I've only just enough of the needful to keep me fit? I wasn't born with a silver spoon in my mouth. By Jove, the fellow's asleep! I wish my prospects were as good as his. As to falling in love, that's not in my line. I'm a vision of a snug little house, with a nice bit of garden, in one of the suburbs of London, rose to his mind; but then I've never seen any one I should care to marry—I wonder if I ever shall."

Thus his thoughts rambled on until gradually he fell into an uneasy sort of a doze, and dreamt he was cutting a slice of plum-pudding, which turned, as he put it on a plate, into a lovely girl; but, just as he was going to hand her carefully down, she turned into a wizened old maid, who said if he did not marry her he would become a mince-pie. He was on the point of saying he preferred to be a mince-pie, when he awoke with a sudden start, caused by the hot ash from his cigar dropping on to his hand—for he had fallen asleep with the cigar in his mouth. He threw it out of the window and fell asleep again, and did not wake until the train stopped at the picturesque little station of Ravenhill.

"Any one here for Squire Grantly's?" exclaimed a voice as the two young men jumped out of the train.

"Yes," cried Harry. "Hallo, Morgan, is it you? How are they all?"

"Quite well, thank ye, sir," replied the man, touching his hat respectfully. "The gig and grey mare are waiting outside. Mare's rather skittish to-day, sir; so if you'll drive on, I'll look arter the luggage."

"All right, Morgan—two portmanteaus and a carpet bag. Come on, Fred—only a two mile drive, thank goodness, for it's most awfully cold!"

"Come here, girls," cried young Mrs. Hartley, a married daughter of Squire Grantly's, who, with her two children, was staying at the Manor House—"come into my room, and have an hour's chat before the dressing-bell rings. Come Kate, Maud, Marion, Nora, and Bee—I want you all. Where are Olivia Dalton and Nettie Gray? I suppose amusing themselves in their own way—most likely with Captain Foster. How they can endure that odious man I can't imagine. We can dispense with that gentleman's company for one short hour. What say you, girls?"

"Oh, yes!" eagerly assented all. "It's delightfully cosy here."

Little Mrs. Hartley's husband was in India, but she did not look very miserable, for she expected him home in May. She was one of the best-natured little women in existence; the girls went to her in all their troubles, to which she always lent a willing ear. Maud and Kate Selby were sisters, but in appearance and temperament widely different—Maud, the elder of the two, being a pretty girl with fair hair and dark-gray eyes very shy and quiet, whilst laughing, bright-eyed, roguish little Mrs. Hartley was a pet with every one, just "sweet seven-teen," and "game," as she said herself, for any amount of mischief. Nora Magrath, an Irish girl, with merry hazel eyes and soft brown hair, was Kitty's especial friend, and they were seldom seen apart.

Marion Erl, daughter of an old college friend of the Squire's, was a glorious sunny beauty, of rather above the middle height, but slight and graceful, with a wealth of golden hair and soft dreamy blue eyes. Quiet little Bee, sitting in the corner, would have been called plain but for her large brown eyes and good-tempered happy face. She was the Squire's youngest and only unmarried daughter.

Lady Margaret, Squire Grantly's second wife, was rather stately, but very kind. The Squire, hearty, bluff, and thoroughly good-hearted, was never so happy as when the Manor was full of young people, whom he permitted to enjoy themselves just as they liked, and the girls always spoke of the Manor House as dear old "Liberty Hall."

"Mrs. Hartley," said Kitty, after sitting for a few minutes without speaking, "you said you would tell us about Constance Leslie. How very pretty she is! But she looks very sorrowful, as if she had known much trouble. Why has she not gone away for her holidays? Has she no friends?"

"Well, dear," replied Mrs. Hartley, "I will tell you all I know about my young governess. Constance Leslie is an orphan. Her father, Colonel Leslie, died on his voyage from India a little more than a year ago, and left his daughter almost entirely unprovided for. She has some rich friends, to whom she went for a short time; but, sooner than be dependent on them, she has taken the situation of a governess, for which they have never forgiven her. They are disagreeable people, I believe, and made her feel her position as a poor relation very keenly. She is, as you say, very beautiful; and no one can know her without loving her. Her manner with children is particularly winning, and Eva and Bertie positively adore her. I tell her sometimes I am quite jealous of the influence she has over them. She asked me if she might remain with me during the holidays, as she has no home—to which I readily assented. She has the old school-room for her sitting-room. Lady Margaret too has taken a fancy to her, and would like her to join our party in the evening; but as yet we have not been able to persuade her."

"I was sitting with her this morning," said Marion, "and I made her sing to me. What a glorious voice she has! It almost made me cry to hear her. She sang only a simple English ballad, but so sweetly and with such pathos! I wish she would come into the drawing-room this evening; do ask her again, Mrs. Hartley."

"I will, dear; but was not that a knock at the door? Just look, Bee."

"Hallo! It's you, little woman, is it?" said Bee, on opening the door, when in rushed a little golden-haired child, dressed in dark-blue velvet.

"Please, mamma dear, may I come in and sit a little bit with you? I will be so good. Cousin Harry's come, and such a big man with a funny big coat on; I said he looked like a giant."

"Hush, Evie, you young sprite; you must not call people names. Run back again to the nursery."

"Oh, but, mamma dear, cousin Harry kissed me, and the big man asked who I was, and said 'Fair, fair, with the golden hair, will you kiss me too?' But I wouldn't—for you know it wouldn't do for me to kiss a man whom I had never seen before; and then they both laughed, and Miss Leslie came to look for me, and the big man did stare at her so, but she hurried away."

"Come, come, little chatterbox," said Mrs. Hartley, laughing at the child's history, "be off and sit quietly in the nursery, or you cannot come down to dessert to-night; and then what would grandpapa say? Kiss mamma and go—there's a pet."

"Yes, I am going; but please, auntie Bee, will you come with me?"

"Yes, darling," said good-natured Bee, kissing the flushed little face; "come along."

"What a bonnie little thing she is," remarked Kitty, as the door closed behind them—"and such a little coquette already! Fancy a child of that age not considering it proper to kiss the 'big man,' as she calls him! By-the-bye, here's a mystery—who is the big man?"

"I know," answered Mrs. Hartley; "he is a friend of Harry Cleve's—a nice fellow, I believe, but no catch, girls—he's very poor. You have not seen Harry for a long time, have you, Marion?"

"Not since last Christmas," replied Marion, "her fair face flushing, which made mischievous little nod sagaciously at Nora; and then I left before his visit was over. I was sent for home, you know, to see mamma, who was ill."

"What are you going to do with yourselves to-morrow, girls?" asked Mrs. Hartley. "If fine and the ice bears, I suppose you will all go skating. Harry and Mr. Vane will be a great acquisition to your party. The latter, I hear from Harry, has never been in love—never been a bit spoony."

"Oh, Mrs. Hartley, what a wretch he must be!" exclaimed Nora. "We'll thaw him—see if we don't! What a chance to show your flirting powers, Miss Kitty!" she added laughing merrily.

"I never flirt," said Kitty, a saucy laugh contradicting her words. "About to-morrow; if wet—which, from the appearance of the night, I think it will be—we intend starting our company for the theatricals. Tableaux seem most voted for. Lady Margaret says she shall leave the decoration of the ball-room to us. I hope Lady Olivia and Nettie Gray won't think it necessary to offer us their valuable assistance. Olivia is so sarcastic and proud, I dislike her exceedingly; and Nettie toadies to her that she quite disgusts me. Never mind about looking shocked, Mrs. Hartley—it's a positive fact."

"I agree with you, Kitty dear," put in Nora. "But never

mind—we'll just politely let her see she isn't wanted. Oh, faith, there's the dressing-bell!" added Nora, with a dash of her native brogue. "I'm off. Call for me on your way down, Kitty."

"I am coming now," said Kitty; and the two girls left the room together.

"What a warm-hearted girl Kitty is!" said Mrs. Hartley. "But how she plagues poor Mr. Lynn! That bothering curate, she always calls him; yet I believe she likes him. I cannot picture merry Kitty as a clergyman's wife. But come, girls, you really must be off; and make yourselves as bewitching as possible."

"To try to captivate the great unknown," supplemented Marion, with a little silvery laugh, as she left the room.

In a small but comfortable room sat a young girl, apparently about eighteen or nineteen years of age. Sitting there in the freighth, with the greater portion of the room in the shade, the outline of her graceful figure and clear well-defined profile was especially noticeable. The wavy mass of rich brown hair drawn off a low but beautifully-shaped forehead, the arched eye-brows, the deep violet eyes fringed with her long black lashes, the full red lips and dainty chin—all were such as an artist would love to paint. It was a proud, sensitive face, but lovable and pure within. This was Constance Leslie. Her mother had died when she was only a few years old, and her father was on his way home from India to make a home for his only child when he also died.

"Come in," said Constance, on hearing a timid knock at the door. "Why, Evie dear, is it you?"

"Yes, Miss Leslie," answered the child; "and please, grandmamma wants to know if you will come into the drawing-room this evening—she hopes you will—and auntie Bee will come for you after dinner. Have I said my message nicely?" she added, quaintly.

"Very," said Constance, kissing the upturned little face. "Thank your grandmamma, and tell her that I shall be ready. Oh, why," thought the young governess, as the child left the room—"why will they not leave me alone? I dread to go amongst so many strangers. It is very good of them to invite me, a poor governess; and a smile, half proud, half sad, passed over her face. Mrs. Hartley certainly treats me kindly, but Lady Olivia and Miss Grey seem determined that I shall not forget my position. I wonder if this sort of life is to go on forever?" mused the young girl. "Oh, father, why did you die and leave me alone? But this is wicked," was the next thought, "and I have much to be grateful for." She was aroused from her reverie by the striking of a clock, and, finding that she would only have time to make the necessary alterations in her toilet before her appearance in the drawing-room, she hastily left the room.

Very lovely looked Constance Leslie as she entered the drawing-room a short time afterwards with Bee Grantly. The girlish figure was robed in black velvet, cut open in front, with trimmings of white lace, her only ornaments being a string of pearls round her white throat and a crimson rose in her luxuriant hair. Excitement lent a deeper flush to her cheeks, and made her look very beautiful.

All came forward to welcome the young governess amongst them—all with the exception of Lady Olivia and Nettie Gray; these merely bowed as she passed them, and Constance, noticing their greeting, bowed with equal hauteur.

"I am so glad," said kind lady Margaret, "to see you amongst the rest of my young friends, and I do not intend you to retire into your shell any more. I cannot bear," she added, kindly, "to think of any one sad and lonely in the old Manor House, especially at this happy season of the year."

"How can I thank you enough, dear Lady Margaret?" said the young girl, gratefully, a softened light in her beautiful eyes.

"By becoming one of us," answered Lady Margaret. "Now I shall hand you over to Kitty's tender mercies, and you can make arrangements for to-morrow."

"That's right—Miss Leslie, come and sit by me," said Kitty. "Oh, here comes the male portion of our community! Do you know any of them?"

"No," replied Constance; "tell me who they are."

"Well," said Kitty, "you see that insipid-looking individual twasting his amber moustache—that is Captain Foster; he divides his attention pretty equally between Olivia Dalton and Nettie Gray, and I can assure you they make a charming trio. The other man, Charlie Thorne, is engaged to my sister Maud; the jolly good-tempered little man talking to Mrs. Hartley is Lord Alfred Dalton, brother to Olivia—he is rather gone on Nora; the young curate," continued Kitty, blushing a little, "is a Mr. Lynn; the handsome fair man talking to Marion Erl is Harry Cleve, and that dark fellow with the jolly brown eyes is a friend of his, a Mr. Vane—the two latter came only this evening. Mr. Vane will leave his eyes here, I verily believe," whispered Kitty, laughing. "You have evidently made an impression, Miss Leslie. But it's of no use; Lady Olivia means to have him for her cavalier."

"She is quite welcome," said Constance, Kitty's merry banter causing a slight blush—for Constance had noticed that Fred's eyes were repeatedly bent upon her. "But who is that queer-looking creature talking to Lady Margaret?"

"Oh," answered Kitty, "isn't she an oddity? She is a Miss Frumpy, an old schoolfellow of Lady Margaret's. Doesn't she dress absurdly young and in the very height of the fashion too? I wonder what is to be the order of the evening; every one seems to want rousing up. I must really go and see what I can do. I will come back again."

"Oh, Miss Kate," drawled Captain Foster, as she passed where he was sitting, "do just stop a moment. I want you to do me a favour."

"Well, Captain Foster, what is it? You must be quick, for, as usual, I'm in a hurry."

"Introduce me—do," answered the Captain—"to that divine specimen of human nature. Who is she?"

"Which do you mean?" said Kitty, a mischievous twinkle in her merry brown eyes. "Oh, I see! Come this way, and she led him straight up to the old young lady of doubtful age, and, before the Captain had time to stop her, said, "Miss Frumpy, Captain Foster is very anxious to be introduced," and then left the Captain, looking considerably crestfallen, but obliged to take the seat offered him beside the lady, who stammered and giggled like a girl of sixteen."

Meanwhile Kitty made her way up to the hearty old Squire, with whom she was a great favorite, and begged that they might have a dance in the hall; to which he readily assented, telling her they might turn the house upside down if it would add to their enjoyment.

"Now," said Kitty, coming back to Constance, "I have turned them all to the right-about, and we are going to have a dance. Wait here, and I will get you a partner."

"Please don't," entreated Constance, "indeed I would rather not dance to-night. But let me play for you—I should



like that above all things. Suppose I begin something now. What shall it be?"

"If you really would rather play," said Kittie, "you shall—and please let it be a value."

Constance seated herself quietly at the piano, and began playing the "Blue Danube."

"Now," Miss Leslie, said Mrs. Hartley, presently, coming up to the piano, "you have played quite long enough, and I intend playing." Yes, you must let me," she added, as the young girl hesitated. "Mr. Vane is very anxious to be introduced to you. Stay here, and I will tell him I have obtained permission."

"But you haven't" opposed Constance, looking up archly into Mrs. Hartley's face.

"Silence gives consent," returned Mrs. Hartley, as she hurried away. She soon returned with Fred Vane.

"Would you believe it?" she said, after going through the necessary introduction. "Miss Leslie has been trying to persuade me that she would rather play for you all than dance."

"Be that as it may," observed Fred, laughing, and looking down with admiring eyes at the fair young face, "I have come to claim Miss Leslie's hand for the next dance, and hope she will not disappoint me. Are you really so fond of playing?"

added Fred, a thrill of happiness passing through him as the little gloved hand rested on his arm.

"Yes," replied Constance; "I am passionately fond of music and flowers—they are my two weaknesses. How happy and bright they all look!" she continued, as they entered the hall.

"And don't you feel happy too?" inquired Fred.

"Oh, yes," replied Constance, blushing as she encountered his earnest gaze, and the violet eyes drooping shyly; "only my life is so different from theirs."

At this moment Kittie came up and asked them how they could have the heart to stand still when that "glorious 'Il Bacio'" was being played.

"It is bad taste, I own," said Fred, laughing. "Come, Miss Leslie, after that severe rebuke we are bound to join the dancers."

Lady Olivia sat with an angry look on her cold haughty face as she watched the young couple, which even the flowery speeches of Captain Foster could not banish. She had taken a dislike to the young governess from the very first, and thought it beneath her dignity to notice her.

Meanwhile Harry Cleve had been whispering sweet nothings to fair Marion Eri, who looked bright and happy.

The evening passed pleasantly to Constance, and, when she sat in her own room hereafter retiring to rest, she wondered what made her feel so strangely happy. A pair of kindly brown eyes haunted her dreams, and she awoke next morning with a new sense of satisfaction.

"Well, Fred," said Harry, as the two friends met for a quiet smoke before going to their rooms, "how have you enjoyed your first evening? And what do you think of her?"

"First rate, old fellow—so free from affectation and nonsense. If the ice bears to-morrow, I am going to teach her the art of skating."

"The deuce you are!" thought Harry. "Fancy her being a governess—but it is all the better chance for me," he muttered.

"She isn't one. What on earth do you mean?" interrupted Harry hastily, and growing very red.

"Mean? She told me so herself," replied Fred, stopping to stir the smouldering fire. "Constance—a pretty name," he added, half to himself.

Harry's look of amazement changed to a hearty laugh.

"We are both on a wrong tack, old fellow—I was thinking of Marion Eri, you had Miss Leslie in your mind. Well, I'll own they are rival beauties. But, if we want to be good for anything to-morrow, let's off to bed; this has been a long day. Good night."

"Good night, old fellow," responded Fred, "and pleasant dreams."

(To be Continued)

**Uncle Tom's Department.**

MY DEAR NEPHEWS AND NIECES.—This is February, the second month in the year; at least, so the almanacs have it, though I have heard that some ancient Roman king or other once actually made it come at the very end of the year. Well, the almanacs, or the Roman kings, or whoever arranges the months, may put February wherever they have a mind to, as long as they let alone the season and the weather, so that my boys and girls may have plenty of snow and ice for skating and snow-ball battles. We have received a large number of illustrated rebuses, charades, and all kinds of puzzles. The limited space afforded by the columns specially belonging to the boys and girls will forbid the early appearance of some that may be accepted. I was not at all satisfied with the samples of illustrated rebuses sent in, but will give the prize of 50c. for January to Calvin W. Finch, of Caledonia, Ont. If you cannot make better ones, I shall discontinue the prize. I hope, though, you will all work for some of the other prizes. I shall keep a strict account of those who send the best original puzzles and the most answers.

UNCLE TOM.

**PUZZLES.**

No. 1.—ANAGRAM.

Su utsy sa uert tiale kalbc si hetiw  
Ro liatt a oodr si a teag  
Sa sit htat a nam nac rafur ragnit  
Owh oesd out erad hte voeteada.

LIEZIE McLAUGHLIN.

**No. 2.—ENIGMA.**

My first is in hail but not in snow.  
My second is in spade but not in hoe.  
My third is in bawl but not in cry.  
My fourth is in stiff but not in spry.  
My fifth is in leaf but not in pod.  
My sixth is in grass but not in sod.  
My seventh is in axis but not in arbor.  
My whole is a city on a harbor.

HERBERT W. MCKENZIE.

**No. 3.—ENIGMA.**

My first is in Belgium but not in Spain.  
My second is in Edinburgh but not in Maine.  
My third is in Italy but not in Greece.  
My fourth is in Athens but not in Nice.  
My fifth is in Leeds but not in York.  
My sixth is in Ayr but not in Cork.  
My seventh is a letter in Turkestan.  
My whole is the name of a very bad man.

H. W. MCK.

**No. 4.—DOUBLE ACROSTIC.**

(1.) The name of a political party. (2.) The ancient name of a country. (3.) A town of England. (4.) A weaver's machine. (5.) A State of America. (6.) A peninsula of Asia. (7.) A county of Quebec. My initials and finals read downwards will name a sovereign and his kingdom.

**No. 5.—HIDDEN GIRLS' NAMES.**

Will you give me a day's work? I am young yet. Well, enjoy yourself if you can. The actions of the me. who own the cargoes tell a struggle is about to take place. Ned, I then will find it for you.

**No. 6.—HIDDEN RIVERS.**

He gave Judith a mess of greens.  
Take the staff, or the cane, and go.  
Let Pat rent the farm if he chooses.  
He threw Ned on the floor.  
My gaundmother broke her arm.  
First John came and then Annie.  
Cats pur usually at night.  
The channel so narrow we passed at last.  
That weed should be uprooted immediately.

**Answers to January Puzzles.**

- 1—Burlington. Gentian.
- 2—Fox-hound.
- 3—A M E N D  
M A N O R  
E N S U E  
N O U N S  
D R E S S
- 4—Peach, reach, each, a.
- 5—Grant, rant, ant, a.
- 6—Hearts resolved and hands prepared, the blessings we enjoy to guard.

**Names of Those who have Sent Correct Answers to Jan. Puzzles.**

Hattie Willer, Chas. S. Stevens, Robt. W. W. Purdy, Herbert W. Mackenzie, Charles French, J. A. Ayerst, Louis Meston, Charlie S. Husband, Sarah J. Fenwell, A. Phillips, E. A. Boyd, Willie Herbert Bateman, Charlotte Blair, Calvin W. Finch, Esther Louise Ryan, C. G. Keyes, Nellie McQueen, P. Boulton, Jessie Morris, Fred. K. Cousins, A. L. McCormick, John J. McLennan, Tom Sowden, G. F. Finch, Allan Smith, Isabel Parfitt, Kate Garcher.

**Minnie May's Department.**

MY DEAR NIECES.—Setting the table is what I am going to talk upon this month. "Susy, run and get the salt-cellar," said mother, as the family began their morning meal, "and bring me another cup and two saucers." "I hav'nt any fork," said Tom. "Guess I'll eat with my fingers." "No, indeed," said mother, "go right away and get yourself a fork." "I do wish we could always have a pitcher of cool water on the table," said father, "whatever else we don't have." "Kate, get some water for your father, and do try to always remember that; I am sure I have told you often enough." The three children were at last in their places again, and something like quiet was restored. "I do hope we can get on now without having any one get up again until the meal is over," said father, "it makes so much confusion

and discomfort. Whose business is it to set the table?" "Kate's," said little Susy. "Well, Kate, if you will set it for a week without having one thing missing when we set down, I will get you a new dress." Kate was pleased with the proposal, and determined to exert herself to the utmost. She made the simple matter of setting the table a study, and the increased order and comfort of the family meals would have been a good reward, without the new dress, which she at last succeeded in earning. There is a science about setting the table, which is too often neglected in country houses. The first point is a clean, decent tablecloth. Better to wash three times in the week, than to call your family to set down around a coffee-stained, crumpled tablecloth. Then let the plates and cups be shining and evenly set, the knives bright, the salt-dish and sugar-bowl (which are so often neglected) spotless, and let every spoon be in its place. A little care and forethought can prevent the disorder which so often spoils half the meal in country houses, as one after another is sent for missing articles. A good dinner can be half spoiled by being carelessly put on the table, and every one knows how the best of materials can be spoiled in cooking. Some housewives seem to have a wonderful skill in both of these departments; good flour is converted into a sour, indigestible mass, and fresh vegetables by being all cooked together, lose all their own peculiar excellencies, and seem only to imbibe the bad traits of their neighbors. The whole meal, when the family are called to partake of it, has much the appearance of being thrown on the table. How seldom we see a plant or a glass of flowers on the table! Yet what a charm they throw over the plainest meal! How refining their influence on the hearts of the children—how cheering and delightful to all flower-lovers. Nothing that makes home pleasant and bright is too trifling to receive our earnest study and attention.

MINNIE MAY.

**Answer to Inquirers.**

C. Hallenbeck.—Chamois or buckskin underwear is washed in warm, not hot suds, rinsed in warm, not hot water, and dried by continued shaking, rubbing, and clapping between the palms of the hands. The manipulation must be gentle, but continuous, until the garment is dry or nearly dry. Then fold and place between large sheets of soft paper, white or brown, but not printed upon, or between soft linen or cotton towels. Air well in sunshine or before a fire before putting on.

Twenty-One.—In reply to my question as to the propriety of kissing one's lady-love at the depot, you in-inate that it is not nice, and give as a ludicrous illustration a case that came under your own observation. Now, Mr. Editor, I have heard depot loungers make similar remarks respecting husbands and wives, brothers and sisters, therefore I maintain that remarks from such ill-bred loungers are no proof that such kissing is not proper. I am engaged and when I visit my lady-love she meets me at the train, but I merely shake hands, raising my hat at the same time. Does that mode of procedure meet your approval? Ans.—Good boy, good boy, and the kisses come in the sweet bye-and-bye, don't they? You must remember that a wife or sister would not be likely to feel so abashed by such remarks, while an engaged young lady usually does not care to make a public display of her affection. So you are engaged—eh? Happy man! How we envy you!

NIX.—Is reading novels injurious to the mind? 2nd. How late in the evening is it proper for a gentleman to remain when calling? Ans.—Good novels are a great improvement to the mind. The works of Miss Mullock, George Eliot, Dickens, George MacDonald and many others, are refining and elevating as well as instructive and Christianizing in their influence.

H. M. B.—It is very vulgar, indeed, to clean the nails in a room where others are present; it seems impossible that any one could be capable of doing so in a drawing-room. 2nd. To pick the teeth at table is not only vulgar, but disgusting.



Charley, Oakville.—I like your sensible answers, and have no doubt great benefit is being derived from this department. Will you please tell me if it is proper to eat out of the small dishes containing vegetables that are given at hotels? Ans.—It depends on what the vegetables may be. Potatoes and such things as are generally eaten with meat should be taken on the plate, but soft vegetables, such as tomatoes, may better be eaten from the small dish in which they are served.

#### RECIPES.

##### MUFFINS.

Are very nice for breakfast or tea, and are convenient when one has company in the afternoon. To make them, take a quart of new milk, one quart of flour, two eggs and a little salt; beat well into a batter and bake in small earthen cups for one hour; or in tin muffin rings, on a griddle, over a moderate fire.

##### CHARLOTTE RUSSE.

Line your tin moulds—in the shape of cups that do not flare—with sponge-cake baked either in the shape of lady fingers or in quite thin sheets, which you must split; stick the edges of the cake together with white of egg. Fill these cups with whipped cream flavored with vanilla and made very sweet with fine pulverized sugar. The cream must be thick and cold when whipped, and the froth taken off as it rises and allowed to drain on a sieve, preserving all that drops through for more whipping. This is the simplest and most delicate filling for a Charlotte. If you add the well-beaten whites of eggs in the proportion of two to a pint of cream it improves it. Another method is to make a boiled custard, using two eggs to a half-pint of milk; add three ounces of sugar and half an ounce of Cooper's isinglass, which has been soaking in cold water for two hours. Set the whole over boiling water until a little thickened, then flavor with vanilla and set it aside to cool. When quite cold beat into it a pint of whipped cream and pour into the moulds as before. This makes a more solid but less delicate filling.

##### ORANGE CAKE.

Orange cake is a very fine thing recently brought to Boston, which will outrival that rather insipid delicacy, angel cakes, which were so popular from the White House down, being Mrs. Hayes' favorite cake, which the lady housekeepers of Washington vied in sending to her daily. Orange cake is a refreshing treat, the flavor and mild sour of the fruit blending with the sweets in a way most grateful to the spring appetite, and the recipe will be welcome to the women who read this paper. It calls for one-half cup of butter, two of sugar, three cups of dried and sifted flour, and four eggs, the yolks and whites beaten separately; with the sugar mix the juice of two fine oranges, and the grated yellow peel of one, then the butter, softened, the yolks and the warmed flour, which should be lightly sifted in, the white of the eggs last, just whisked in, and the cake hurried into the oven. It should be baked in layers three times as thick as jelly cake, which are thinly spread with orange marmalade while hot, and half an inch of finely cut orange pulp lightly sugared placed between two layers, and each cake is frosted with boiled icing flavored with orange juice. The receipt comes from the Isles of Shoals where the women are either born cooks or write poetry.

Sadie.—Our canary sings well during the summer, but is dull and silent in the winter; can anything be done to make him sing? How can lemons be kept during the winter? How should a metallic hair brush be cleaned? Ans.—Canaries are natives of a warm climate and very tender. The fall and winter too is the season for moulting, when they feel too miserable to sing. Give your bird a little opium seed and a few grains of cayenne pepper. Keep it warm, and cover the cage with a piece of flannel at night. Keep lemons in a box of damp sand in a cold cellar during winter. To clean a metallic or bristle hair brush, dissolve carbonate of soda or saleratus in water, and put it in a deep dish; place the brush in this so that the bristles are in the water, but the back will not be touched. Use cold water for bristles or they will become soft. After half an hour strike the bristles on a dry towel to remove the moisture, and put the brush in a cool draft of air to dry.

When I was a young man I was always in a hurry to hold the big end of the log and do all the lifting; now I am older, I seize hold of the small end and do all the grunting.—[Josh Billings.

#### Management of Children.

The world is more indebted to mothers than to fathers for the characters of its leading men and women. A man or woman becomes good or bad as he or she is well or ill trained. How enormous is the responsibility of a parent, remembering what everlasting and wide spreading results for evil or for good may happen from the management of a child! And yet how much is it made the merest matter of accident and momentary impulse. Of course, much effect is depending upon the character of the parent, but in the main, or indeed with very few exceptions, parents mean well and want to do the best they can for their children. If this is so, what serious mistakes are made by mothers who go about continually scolding and fault-finding, and slapping and punishing their little ones at the least provocation, and without the formality of a thought as to the propriety of the hasty act. Now, every individual charged with wrong-doing should be accorded a trial and even a child is entitled to it, although the accuser should be jury, judge and executioner, too. This trial should be a deliberate weighing of the motives and excuses for the acts complained of; and if these are found to be free from evil intent, violent punishment should be out of the question. It is even worth considering if corporal punishment of any kind could not possibly be entirely abolished in the family, and moral influences brought to bear. A kind and conscientious parent too often feels bitter regret that he or she has permitted annoyances and hasty passion to control the mind, when a child has been punished for trifling faults which happen to be mere errors of immature and childish judgment. This is a subject which appeals very strongly to the most careful consideration of parents, but most especially to the mothers.

#### Notice It.

Notice what? Notice everything that is done by others to contribute to your benefit or happiness. Nothing seems more ungracious than the passing over, without remark, apparently without thought, the thousand and one little efforts and attentions which are intended to sweeten domestic life.

Ingratitude and indifference sometimes mar the character of woman; but are far more frequently observable, we think, in man. A husband returns from his business at evening. During his absence, and throughout the livelong day, the wife has been busy, with mind and hands, preparing some little surprise, some unexpected pleasure to make his home more attractive than ever. He enters, seemingly sees no more of what has been done to please him than if he were a blind man, and has nothing more to say about it than if he were dumb. Many a loving wife has borne in her heart an abiding sorrow, day after day, from causes like this, until, in process of time, the fire and enthusiasm of her original nature have burned out, and mutual indifference spreads its pall over a household.

Often, we think generally, inattention to little acts of thoughtfulness and consideration results from a mere habit of carelessness; but, in its effect upon the happiness of a family, it is a most unfortunate habit. A few words of thanks, of appreciative recognition, are easily spoken, and such words are precious to the soul that hungers for them. They are highly prized and not soon forgotten.

Take notice of what is done for you. Words of merited praise and thanks exert a kindly and beneficial influence upon both listener and speaker. Gratitude unexpressed seems to others to be unfelt.

The newest tea cosies are of black or colored satin made in four pieces, with a pretty floral design worked on each piece. On black satin, myrtle leaves and tiny roses are often seen. The design is sometimes painted, and only the flower worked. This has a very good effect. Other cosies of the usual shape are left open at the top and upper part of the sides, and then filled in with a puff of satin. The puff is often a different color from the rest of the cosy. In black and red or gold and dark blue it looks well. When the puff of satin is inserted, and it should stand up about two inches or so, the sides are a little drawn together by an invisible thread to keep them in place. Large butterflies worked in different colored silk, or beetles with real wings sewed on, a design of lilies of the valley tied with a large bow, or a cluster of cherries with a cherub astride on the brown stalk, are all effective patterns.

#### Story of Mr. Webster.

Daniel Webster, travelling, had the night stage from Baltimore to Washington, with no companion save the driver, and contemplated that worthy's forbidding visage with a very uneasy mind. He had nearly reasoned his suspicious fears away, when they came to the dark woods between Bladenburg and Washington, when Mr. Webster felt his courage oozing out of his finger ends as he thought what a fitting place it was for a murder. Suddenly the driver turned towards him and roughly demanded his name. It was given. Then he wanted to know where he was going. "To Washington. I am a Senator," said Daniel, expecting his worst thoughts were near realization. The driver grasped him by the hand, saying: "How glad I am, mister, to hear that! I've been properly scared for the last hour, for when I looked at you I felt sure you was a highwayman."

#### Grand Premiums for Workers.

THE CHOICE OF

The Offer,  
The Accepted, or

FOR ONE NEW  
SUBSCRIBER.

#### Language of Flowers and Floral Conversation.

BY UNCLE CHARLEY.

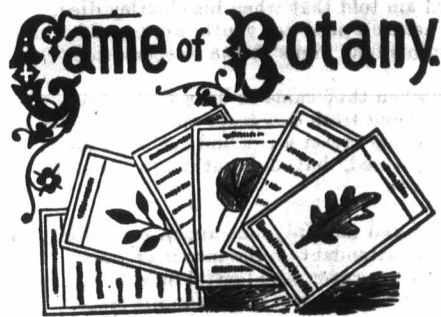
Contains the Principles of the Flower Language; Flowers with their Expressions, Flowers by the Posts, a Fascinating Story Floral Decorations, Cemetery Decorations, Skeleton Leaves, &c.

As the publishers cannot supply at present any more copies of "Life's Voyage," or "Y-s or No," we add now "Gathering Ferns" and "Crossing the Stream," two attractive and rare crayons. Either one of above for one new subscriber, paid or one year in advance.

AND THE CHOICE OF

Homeward, or The Curfew,  
Balmoral Castle,  
Lorne and Louise, or

FOR TWO  
NEW  
SUBSCRIBERS



#### Uncle Charlie's Illustrated Game of Botany.

The most desirable Game for Children ever offered to the public. In playing the elements of the Science of Botany are easily and thoroughly acquired.

MME. DEMOREST'S Celebrated PAPER PATTERNS to the value of \$250. for ONE new subscriber, and to the value of \$600. for TWO new subscribers. Choice to be made from our Illustrations in Fashion Department or Mme. Demorest's Portfolio.

Our engravings, "The Offer" and "The Accepted," by Thos. Faed, R. A., and the colored lithograph, "Life's Voyage," have been described in our Dec. No., 1876; Jan., 1877, and April, 1878, respectively, and after a most careful examination of hundreds of valuable engravings, we have not been able to find any more pleasing or suitable. They are without doubt unrivalled premiums.

In April No., "Homeward, or The Curfew," by Joseph Johns, was described, and a cut but faintly suggested the merit and beauty of the large engraving, 22 x 28 inches in size, now offered; and in May No., 1881, a small wood-cut of the chromo "Balmoral Castle," is given. This engraving, 24 x 30 inches in size, is of elegant finish and design. The last two mentioned were published at Two Dollars each under copyright.

"Lorne and Louise" was fully described in our Dec. No., 1879, and but a few copies remain in our hands.

#### OUR RULES

The name sent in must be a new one, and the subscription for one year (\$1.00) must be enclosed. The prize is for the old subscriber who sends in the new name, and not to the new subscriber.

Choose your prize when remitting, otherwise a choice may be made for you.

To any subscriber, to any member of a subscriber's family (boys and girls), to all postmasters and school teachers, who send in new subscribers, these prizes will be mailed, postage paid.



**Daniel Gray.**

DR. J. G. HOLLAND'S PEN PORTRAIT OF HIS FATHER.

If I shall ever win the home in heaven  
For whose sweet rest I humbly hope and pray,  
In the great company of the forgiven  
I shall be sure to find old Daniel Gray.

I knew him well; in truth, few knew him better;  
For my young eyes oft read for him the Word,  
And saw how meekly from the crystal letter  
He drank the life of his beloved Lord.

Old Daniel Gray was not a man who lifted  
On ready words his freight of gratitude,  
Nor was he even called among the gifted,  
In the prayer meetings of his neighborhood.

He had a few old-fashioned words and phrases,  
Linked in with sacred texts and Sunday rhymes;  
And I suppose that in his prayers and graces,  
I've heard them all at least a thousand times.

I see him now—his form, his face, his motions,  
His homespun habit and his silver hair,—  
And hear the language of his trite devotions,  
Rising behind the straight-backed kitchen chair.

I can remember how the sentence sounded—  
"Help us, oh Lord to pray and not to faint!"  
And how the "conquering and to conquer" rounded  
The loftier aspirations of the saint.

He had some notions that did not improve him;  
He never kissed his children—so they say;  
And finest scenes of rarest flowers would move him  
Less than a horse-shoe picked up in the way.

He had a hearty hatred of oppression,  
And righteous word for sin of every kind;  
Alas, that the transgressor and transgression  
Were linked so closely in his honest mind!

He could see naught but vanity in beauty,  
And naught but weakness in a fond coress,  
And pitied men whose views of Christian duty  
Allowed indulgence in such foolishness.

Yet there were love and tenderness within him;  
And I am told that when his Charley died,  
Nor nature's need nor gentle word could win him  
From his fond vigils at the sleeper's side.

And when they came to bury little Charley,  
They found fresh dewdrops sprinkled in his hair,  
And on his breast a rosebud gathered early,  
And guessed, but did not know, who placed it there.

Honest and faithful, constant in his calling,  
Strictly attendant on the means of grace,  
Instant in prayer, and fearful most of falling,  
Old Daniel Gray was always in his place.

A practical old man and yet a dreamer,  
He thought that in some strange, unlooked-for way,  
His mighty Friend in heaven, the great Redeemer,  
Would honor him with wealth some golden day.

This dread he carried in a hopeful spirit,  
Until in death his patient eye grew dim,  
And his Redeemer-called him to inherit  
The heaven of wealth long garnered up for him.

So, if I ever win the home in heaven  
For whose sweet rest I humbly hope and pray,  
In the great company of the forgiven  
I shall be sure to find old Daniel Gray.

The Northern Spy, Sweet Bough, Canada Red,  
and some other varieties of apples, if top grafted,  
made fine shade trees, being useful as well as ornamental.

The editor of a city agricultural journal, who knew less about farming than he did about anything else, told a subscriber who wrote asking "How to get rid of stumps," to go to any respectable dentist, and not to take gas unless his lungs were sound and his heart was all right.

It is becoming evident that the "sugar meal," which is the product of glucose factories, is not what it is claimed to be—the non-starchy parts of Indian corn, separated from the starchy by simple grinding and treatment with water. It is often called "sour meal" from its taste, which goes to show the corn has been mixed with acids in process of manufacture. Like "brewers' feed" it tends to produce a large flow of poor milk, but to it attributed much of the cholera infantum.

**Care of the Hands**

Many women whose hands are in and out of dish water, or are otherwise wetted and dried several times a day, often suffer much from rough or chapped hands. Something, at least, may be done to relieve this inconvenience, if not to wholly prevent it. In the first place the hands should be kept out of water as much as possible. This may be done in several ways. One is by wearing india-rubber gloves. Another is by using dish mops. These are very useful things, and keep the hands out of hot or greasy water very effectively. To make one, get a small hardwood handle made like the handle of a painter's brush and with the lower end knobbed and thick. Take a strip of old toweling or Russia crash 6 inches wide and cut it in strips at one edge, 1 inch wide and 4 inches long, leaving 2 inches of the other edge whole. Then one has a sort of coarse fringe. This is wrapped around the thick end of the handle so as to make a sort of brush, and bound tightly with twine. This is the dish mop, and boiling hot water can be used to wash dishes or milk pans with such a contrivance without wetting the hands. By having a dish pan with clear water in it, the dishes may be rinsed in this, and put on a rack above the sink to drain. This saves the hands greatly. Other methods may be invented or discovered by any ingenious housekeeper. The hands are also saved very much by washing them, after having had them in water, with glycerine soap and cold water, and then rubbing them perfectly dry until they shine with a dry towel. One's hands will never be chapped if this precaution of rubbing them bright and shining dry is always used after wetting or washing them. Rosin soap is a great damage to the hands. To use pure castile soap for all the washing will cost an extra ten cents weekly. It would be better to save this in some way, and preserve the hands in good condition by discarding the cheap rosin soap. A pair of old kid gloves worn at night will be very useful in keeping the hands soft, and before retiring the hands should be washed in warm water and rubbed all over with a piece of pumice stone, or with fine sand. This prevents or removes any roughness.

**A Skunk Trap.**

I take an old barrel and place it on a stick of wood about seven inches high, as shown in the illustration. You will see at once that when the skunk goes for his bait, which is in the bottom of the barrel, as soon he passes the centre the barrel



turns up with the skunk, woodchuck, or other animal, caged in the latter, without making any scent. I then take the skunk by the tail, and carry him where I please. Care must be taken not to place the barrel too high, as it might throw over and not remain upright. The more skunks you catch in the same barrel, the better the trap.

Pretty doll pincushions can be made in this way: Cut out a circle of cardboard, cover it with glazed lining, stretching it over and tacking it inside from side to side. Join on a straight piece of lining, run it up like a bag, fill it tightly with bran; then push a small china doll in up to the waist, tying the bran bag tightly round its waist. Make a pretty flounced skirt of muslin and put it on, also a little bodice, a sash round its waist, and the doll is complete. Put pins in all over the skirt. This stands well on a table. The dresses can vary, and the color of the glazed lining; also a little basket may be fixed on in front to hold hairpins or rings. Pincushions in the form of large butterflies made of fancy silk over cardboard, suspended by a ribbon, are nice for hanging on a wall. The pins are put in all round. Also circular ones for gentlemen or for cottages, in silk or chintz, and those in the form of bellows, with a bodkin put through to form the point. The bellows are cut to shape in four pieces of cardboard, joined and sewn over; they have a piece of flannel inside for needles, and are kept together by a piece of elastic passed over the broad end. They are sewn together at the point. Box pincushions of various sizes and colors are always useful.

A FARMER'S DIARY.—Messrs. D. Appleton & Co., Publishers, New York, U. S., sends us the Farmer's Annual Hand Book for 1882. Besides the diary, it contains a large number of useful tables, and will be found very convenient to all farmers.

**Stock Notes.**

On account of the great demand for breeders' cards, and our limited space for that class of advertisements, in future all cards will be \$1.50 per line per annum, strictly in advance; but if not paid within three months, they will be charged \$2.00 per line.

In a recent letter to us, Mr. Jno. Dryden, M. P. P., of Brooklin, Ont., says: "I must give the ADVOCATE credit for being the best advertising medium I have ever tried, and I have advertised in the National Live Stock Journal and other leading papers. I have received more enquiries from the little card in your paper than from all other advertising I have ever done. The demand for better stock of all kinds, especially Shorthorns, continues excellent. I have sold during the past year stock to the value of \$5,000."

James Anderson, Springfield Farm, Guelph, Ont., writes:—I have sold out all my Southdown sheep, Essex pigs and poultry. I have to spare thanks to the wide circulation of the ADVOCATE. I have sold 20 pairs turkeys, 10 geese and 10 ducks; also light brahmas and turkeys from \$5 a pair upwards; geese the same; ducks and fowls, \$3 a pair. I wish you would mention I have no more for sale in your next issue. I sent them all the way to N. B., N. Scotia, &c.

Mr. John Dryden, M. P. P., of Brooklin, Ont., has sold his white Shorthorn cow, "Lily," to Messrs. Green Brothers, of Oakville, Ont. The Messrs. Green have also purchased of Mr. James Russell, of Richmond Hill, Ont., the Shorthorn cow, "The Duchess of Springbrook."

The revising committee of the British-American Shorthorn Association met on the 20th January, and passed upon over 500 pedigrees already received for registration. The breeders are rallying around the standard of the new herd book in a very gratifying manner.

Henry Arkell, of Arkell, Ont., has made a number of sales of Cotswold and Oxford Down sheep. Nine Oxfords to Mr. Boyd, of Bobcaygeon, Ont.; one ram lamb to M. H. Rollins, Henry, Ill., U. S. A.; ten imported Cotswold ewes to Henry Hies; two ewes to R. H. Tompson; and ram lambs to Wm. Roe, Jno. Hies, James Petty, of Arkell, R. W. Thomas, Jas. Watson, and Wm. Hume, of Nassaganeya; also one ram lamb to H. Wharton.

Mr. Geo. Hill, of Delaware, Ont., has sold his first prize Shorthorn bull, "Orange Duke," to Allan Stevenson, of Wendigo, Ont.

A very valuable lot of cattle have arrived at Ridgewood, near Goderich, from Quebec, where they have been putting in the Government quarantine regulations of ninety days, consisting of Grand Duchess 28th and bull calf and 5th Duke of Tregunter. These were selected and purchased for Mr. Attrill by Mr. John Thornton. The bull calf is got by Lord Fitzhardinge's famous Duke bull, Duke of Connaught, bred by the Earl of Dunmore, and sold a few years ago for 3,500 guineas. The two Grand Duchess cows and their calves are the only representatives of this particular strain in America, and are a very valuable lot of cattle.

Messrs. Powell Bros. have 167 horses recorded in the first volume of the American Clydesdale Stud Book.

Mr. W. Farthing, of Stoney Court, Bridgewater, Eng., the celebrated breeder of Devon cattle, is about to retire from the breeding business, and will sell by auction in the latter part of April next, without any reserve, the whole of his herd of Devon cattle.

We are informed a new history of the Polled Aberdeen and Angus cattle is in preparation. The editors of the work are the editor and sub-editor of the Irish Farmers' Gazette.

Messrs. Powell Bros., of Springboro, Pa., whose advertisement appears in this issue, have lately received from Scotland several large importations of Clydesdales. They say that they have now the largest collection of these horses in America. They are also importers and breeders of Holstein and Devon cattle.



The veteran Shorthorn breeder and importer, Mr. R. Gibson, of Ilderton, Ont., writing to an American paper, says that he intends locating in Illinois or Iowa in the spring, and founding a new herd of Shorthorns. The breeders of the west are cognizant of Mr. Gibson's great enterprise and skill as a breeder, and will doubtless extend to him a warm welcome to the States. So says the English Live Stock Journal.

At the last annual show at Tredegar, where the Herefords and Shorthorns came in competition for special prizes, it was won by the celebrated Hereford bull, "Lord Willow," 4760, the property of Mr. T. J. Carwardine, Stockton Bury, Leominster, against "Telemachus 9th," a Shorthorn, previously a great winner; and at Birmingham, Mr. Price, Court House, Pembroke, Herefordshire, after winning first prize with his steer in his class, won all the extra prizes as best beast in the yard, against all breeds. This steer was only two years and eight months old, and weighed 1950 lbs. It was from these two noted herds that W. E. Urwick, of Birmingham, England, for the Hon. M. H. Cochrane selected near thirty bull calves, that are now in quarantine at Quebec; several are by the grand stock bull, Lord Willow, 4760.

Commercial.

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

We have had another month of comparatively mild weather, with one or two cold dips; Monday night, the 23rd ult., was about as cold as any weather last year, the thermometer ranging from 28 to 32 through northern Ontario. The weather is again open and no snow, which is very much to be lamented.

WHEAT

Has on the whole ruled quiet but steady. Deliveries have been comparatively light, and holders have not been forced to sell freely. Stocks are light generally, and the impression seems to prevail that the bulk of the wheat both in Canada and the States has been marketed. The "bulls" have again got the upper hand in Chicago, and prices have advanced there some 8 to 10 cents; they talk of sending it up to \$1.50 by the end of March; how successful they will be, time will tell. The weather, the past month, has on the whole been pretty trying on the wheat plants, and the very extreme changes, from 25 below zero to almost April weather and back again to below zero within a week, cannot but be mere or less injurious. There is a very large breadth of wheat sown throughout the country, and it is to be hoped the winter will not be too severe. The amount of wheat in sight on this continent, on January 21st, shows a decrease of 10,900,000 bushels compared with that of a year ago. The visible supply of grain in the United States and Canada, was as follows on the dates named:

Table with 3 columns: Date (Jan. 21st, Jan. 14th, Jan. 22nd, 1882, 1882, 1881), Wheat, Corn, Oats, Rye, Barley. Values in bushels.

A very important factor, and one that has helped to keep up the price of wheat, is the extremely low freights that have been ruling all this winter. This item has added 10 to 12 cents to the price of wheat in this country and the same has gone into the pockets of the farmer.

PEAS.

There has been some movement in peas but it has been somewhat restricted by the high price asked by holders. The fact is they paid high for their stock and don't like to sell for less than cost. There will be a large breadth sown the coming spring and we hope we will not see the bugs so bad again for a few years at least.

BARLEY

There has been considerable move in this grain,

but chiefly to the malsters and brewers in the States. There is every prospect that this article will rule steady the balance of the season.

CLOVER SEED

has been moving freely, and good firm prices have been paid, and farmers will do well to market at once, as the English and continental demand will soon cease.

CHEESE

has kept very steady, and all the fine lots have been picked up at much better prices than was at one time supposed they would bring. Sales have been made at 12 1/2 and 12 3/4 for choice car lots, and fine September and October cheese is firmly held at 13 cents in Montreal. Medium goods are attracting more attention than they were, from the fact that fine are getting scarce and in small compass. We hope to see bare markets by next May.

BUTTER

has been quite a drug up to the present, but things are looking somewhat better than they were. In Montreal, secondary grades are now called fine, from the fact that they have nothing better. In New York the price of fine butter is very high; 40 and even more is paid for fine creamery and choice dairy. Prospects are that stocks will be well worked off before spring. We hope the same will be the case in this country.

COTTON SEED OIL AND MEAL.

Among the latest introductions into the Canadian market are cotton seed oil and meal. The oil is extensively used in the Southern and South-western States for culinary purposes, having largely superseded lard and butter. It is found to be wholesome, sweet, and clear, and far more palatable than lard and cooking butter, its cost being only about half that of lard. This oil is also in general uses in the Western States, where it is sold extensively by grocers, as it is found to be a useful article for pastry and cooking purposes generally. Cotton seed oil is shipped in considerable quantities to Italy and the south of France, from whence it is re-shipped to different parts of the world as best table oil. The other article above referred to as cotton seed meal, is widely used in the United States, and also in England and Scotland for feeding beef cattle and milch cows. Over ten thousand tons of this meal were sold last year in the New England States alone, and wherever it has been introduced it has given great satisfaction, and we deem it well worthy the attention of our farmers and dairymen.—[Montreal Gazette.

POTATOES.

Potatoes keep in good demand, and are quoted firm in Montreal at \$1.00 to \$1.15 per bushel. Eight hundred tons of Scotch potatoes are on the way from that country to New York. There are a good many coming from Ireland and Germany as well.

FARMERS' MARKETS.

Table with multiple columns listing market prices for various goods like Wheat, Corn, Oats, Rye, Barley, Peas, Beans, etc. in different locations like London, Toronto, and Montreal.

GRAIN AND PROVISIONS

MONTRÉAL, P. Q., 30th Jan.

Table listing prices for various grains and provisions in Montreal, including Wheat, Cornmeal, Butter, Eggs, etc.

WHOLESALE PRODUCE MARKETS.

New York, 30th Jan.

Table listing wholesale prices for various produce in New York, including Flour, Rye, Eggs, Potatoes, etc.

BOSTON, MASS., 30th Jan.

Table listing prices for various produce in Boston, including Flour, Butter, Creamery, Dairy, etc.

LIVERPOOL, ENG., 30 Jan.

Table listing prices for various produce in Liverpool, including Flour, Barley, Peas, Pork, etc.

CHEESE MARKETS.

Liverpool, Eng., Jan. 31, 5 p.m.

Per cable, 65s.

LITTLE FALLS CHEESE MARKET.

30th January.

Sales of 600 boxes of factory cheese at 12 1/2 to 13c; 50 boxes of farm dairy, 10c to 10 1/2c; 50 packages of butter 28c to 31c.

LIVE STOCK MARKETS.

Buffalo, N. Y., U. S. A., Jan. 30.

CATTLE.—There were 120 loads sale cattle in the yards. The market opened very dull, buyers being slow to take hold, and prices if anything were somewhat lower than last Monday's opening prices. The attendance of country buyers was light, and shippers for New York were holding back as that market was reported no better than at the close of last week, when, it will be remembered, it was pretty bad; fifty were held over from last Friday's market at that point. The quality of the offerings on sales here were mainly of fair to medium grades, with a few loads of good shippers, but no very choice or extra steers. We quote choice steers at \$5.65 to \$6; good shippers at \$4.25 to \$5.60; fair to medium \$4.90 to \$5.15; good butchers \$4.40 to \$5; light, do., \$3.75 to \$4.25; fat cows and heifers, \$3.75 to \$4; fat bulls, \$3.25 to \$4.25 up to \$4.50 to \$4.75 for choice. There was a little demand for milch cows and springers, at \$30 to \$40 per head for fair to good, but the supply was about equal to the demand. Veals steady, at \$6.50 to \$7.25.

SHEEP AND LAMBS.—The market opened quite active at an advance of 20c to 30c per cwt. from the closing prices of last week for good grades, and 15c for the lower grades. The supply consisted of 35 loads, about one half of which were fresh arrivals. Weather cold, and reports from New York of a favorable nature. We quote fair to good 80 to 90 lb. sheep at \$4.50 to \$4.9; do 90 to 100 lbs, \$4.75 to \$5.25; do 10 to 120 lbs, \$5 to \$5.5; western lamb \$5.50 to \$6.00; Canada lambs were in light supply, only one load common being on sale, which brought \$6.

BRITISH MARKET SUMMARY.

JANUARY 23rd.

The leading live stock markets of the country have been but moderately supplied with cattle and sheep. The quality of the former has been fair, but that of the latter only middling. Anything good of either has, however, sold well; and there appears to be an upward tendency in all the leading markets.

LONDON, JAN. 23RD.—The beast trade was slow and dear; middling qualities difficult to move. Prices asked gave but little margin to buyers, consequently business was curtailed. Sellers generally report the sheep trade as discouraging. Buyers, however, affirm all goods equally as dear, if not for prime dearer. Trade was very slow. Calves unaltered. Pigs dull and depressed.

MANCHESTER, JAN. 23RD.—The supply of cattle was about an average for the season, choice sorts being in very good demand at higher prices; middling and inferior sorts met a slow sale at late rates. Numbers of sheep were small, but the sale, which opened slow, met a brisk finish at good prices.

GLASGOW, JAN. 23RD.—There was a decided improvement in the market to-day for both cattle and sheep, and late rates fully maintained, and a clearance of all classes easily effected, and we anticipate trade to improve.



NEW ADVERTISEMENTS.

**NEW! ORNAMENTAL TREES  
FRUIT & SHRUBS, ROSES, 1882.**

Besides the largest and most complete general stock of Fruit and Ornamental Trees, Roses, etc., in the U.S., we offer many Choice Novelties. New Abridged Catalogue mailed free to all who apply. Address **ELLWANGER & BARRY,** Mount Hope Nurseries, Rochester, N.Y.



**LOVETT'S MANCHESTER STRAWBERRY.**  
A CATALOGUE OF THIS BERRY—FREE. Scotchman & Cutbert Raspberries, specialties. 15 New Grapes, Hybrid Peas, &c. Lovett's Small Fruits are the best. The Catalogue, richly illustrated (colored plates), tells how to get and grow them. The most beautiful and useful Small Fruit Catalogue ever published.  
J. T. LOVETT, Little Silver, N. J.

194-F&A

**CREDIT SALE**  
—OF—

**THOROUGH - BRED**  
and OTHER STOCK  
—AT—

**CLANDEBOYE FARM**

two-and-a-half miles from St. Catharines, on

**FEBRUARY 23 AND 24, 1882**

7 Durham Bulls; 14 Durham Cows and Heifers; 11 Durham Grade Cows and Heifers; 8 Jersey Bull Calves, by "Governor Lorne"; 50 Cotswold Ewes and Ewe Lambs; 18 Shearling Cotswold Bucks and Buck Lambs; 4 Leicester Ewes; 2 Shearling Leicester Bucks; 14 young Berkshire Pigs, by "Western Prince"; the Heavy Draught Stallion "Lord Clyde," by imported "Heart of Oak," dam by imported "Netherby"; the beautiful stallion Colt "Zulu," foaled in Kentucky by the celebrated trotting Stallion "Administrator," dam an inbred "Abdallah." **10 months credit.** Lunch 11.20 a.m. Sale at 12 noon sharp. Conveyances will meet the 10.30 a.m. Great Western train. Catalogues on application.

**JOHN CARROLL,**  
194 St. Catharines, Ont.

**SEEDS! SEEDS!**  
FOR 1882.

*Keith's Gardener's Assistant and Illustrated and Descriptive Catalogue for 1882*

Now ready and will be mailed to any address free on application. Special attention given to all kinds of Seed Grain. Having grown a number of varieties on my Seed Farm, I can safely recommend them.

**GEO. KEITH,**  
Seed Grower and Importer,  
124 King St. East, TORONTO.  
Seed Farm—"Fern Hill," Scarborough.  
194-b

**SMALL FRUITS!**

PLANTS for the million, at prices to suit the million. A superbly illustrated book, "SUCCESS WITH SMALL FRUITS," with a very liberal offer. Send for Catalogue. **Cornwall-on-Hudson, New-York.** 194-a

**BEST SEEDS AND REASONABLE PRICES**



Address **JAMES RENNIE, TORONTO.**  
194-4f **CATALOGUE FREE.**

**BEST SEEDS GROWN**

For sale at the Agricultural Emporium, 360 Richmond St., London, Ont. Our Catalogue for 1882 is now out. Send for one. We buy and sell none but the best seed procurable. We aim to give satisfaction to all. Correspondence invited.

Address **PEARCE, WELD & Co.,**  
194-4f London, Ont.

**VICK'S**  
**Illustrated FLORAL GUIDE!**  
1882

Is an elegant book of 150 pages, a Colored Frontispiece of Flowers, and more than 1000 Illustrations of the choicest Flowers, Plants and Vegetables, and directions for growing. It is handsome enough for the Center Table or a holiday present. Send on your name and Post Office address, with 10 cents, and I will send you a copy, postage paid. This is not a quarter of its cost. It is printed in both English and German. If you afterwards order seeds deduct the 10 cents.

**VICK'S SEEDS** are the best in the world. The FLORAL GUIDE will tell how to get and grow them.

**Vick's Flower and Vegetable Garden,** 175 pages, 6 Colored Plates, 500 Engravings, for 50 cents in paper covers; \$1.00 in elegant cloth. In German or English.  
**Vick's Illustrated Monthly Magazine,** 32 pages, a Colored Plate in every number and many fine Engravings. Price \$1.25 a year; Five Copies for \$5.00; Specimen Numbers sent for 10 cents; 3 Trial Copies for 25 cents. Address, 194-c **JAMES VICK, Rochester, N. Y.**

**RELIABLE**  
**Seeds**  
CULTIVATOR'S GUIDE!  
—OR—  
CATALOGUE of SEEDS

before purchasing elsewhere. Sent free to all applicants. Address

**J. A. SIMMERS,**  
Seed Merchant, - Toronto.  
194-c

It will pay purchasers of SEEDS to get a copy of my **Twenty Seventh** annual publication of the **CULTIVATOR'S GUIDE!** —OR— **CATALOGUE of SEEDS**

**TO JERSEY BREEDERS**

**Mr. PHILIP DeGROUCHY,** of the State of New York (a native of and formerly a breeder of the Island of Jersey), is now purchasing **JERSEY STOCK**

for use on the Island, and will accompany them out in May. Any person desiring his services to purchase Jerseys for them on the Island can obtain information by applying to me.

**VALANCEY E. FULLER,**  
194-4f "Oakland" Farm, HAMILTON P. O.

**MANN'S IMPROVED**

**Broad-Cast Seeder for 1 or 2 Horses.**



The above cut represents our Seeder, nine feet two inches wide, which is a great advantage over all other machines. It sows all kinds of grain and grass seed, either separately or mixed, in any desired quantity per acre. As shown by the cut, it is provided with a lever convenient to the driver, that he may open or close the feed at will, and as the sowing takes place so near the ground, the wind has not the least effect on it. One horse can handle it with ease; however, some prefer two, and for those we furnish poles. As a fertilizer sower it has no equal. We would refer you to the following prominent gentlemen, who are among the many that have purchased our machine:

Henry Anderson, Esq. London, Ont. general supt. Provincial Exhibition, Ontario; B F Brown, Esq. Cambridge, Co. Ontario, Pres. of Thorah Branch Agricultural Society; Lieut Leeward, London, Ont; H H Scott, Esq. London, Ont; Jas Forbes, Esq. London, Ont; Robt Wood, Esq. Nixon, Norfolk Co; John Watson, Esq. Burns, Perth Co; Sam'l Miller, Esq. Glenelg, Grey Co; J B Randall, Esq. Newmarket, York Co; Parker Allen & Son, Adolphustown, Lenn-x Co; Reuben Trusaw, Esq. Muntain, Dundas Co; T Stafford, Esq. Renfrew, Renfrew Co; Percival Platt, Esq. Adolphustown, Lennox Co; A W Blanchard, Esq. Greenbush, Leeds Co; Thomas Elliott, Esq. Flesherton, Grey Co; J M Tait, Esq. Headingley, Manitoba; A Halpenny, Fitzroy, Carleton Co; Cyrenius Stowell, Addison, Leeds Co; J A Seymour, Inkerman, Dundas Co; Jos Delaney, Heavelton, N Y; Geo T Row and, Edwardsville, N Y; W W Stevens, Lowville, N Y; J E Wilson, Lowville, N Y; J B Spencer, DeKalb Junction, N Y; W R Rodger, Hammond, N Y; H C King, Redwood, N Y; B Allen, Philadelphia, N Y.  
We give any reliable person a machine on trial before purchasing.

**J. W. MANN & CO.,** - Brockville, Ont.

**A. S. MURRAY & CO.,**

423 RICHMOND STREET, LONDON, ONT.

**The People's Jewelers, - Established 20 Years.**

**WATCHES:** We will send to any address, free of extra charge, a Solid Silver Hunting-Case, full jeweled Lever, manufactured expressly for us, for \$10.00. A Nickel Stem-winder, \$4.75. A Solid Silver Hunting-Case, full-jeweled Lever, \$7.50. Solid Silver Waltham Watch, \$13.00 upwards.

**Special for the Ladies!** A 14 K Solid Gold Key-winder for \$16.00. With every watch a written Guarantee is given for Five (5) Years.

**SPECIAL XMAS PRICES FOR LADIES' LONG GUARDS AND NECKLETS.**

14 K Fine Long Guard for \$20.00, formerly \$28.00	14 K Fine Long Guard for \$24.00, formerly \$35.00
9 K " " " \$14.00, " \$20.00	14 K " Necklets for \$8 & \$10, " \$12 & \$15

**The Largest Stock of Silverware and Cutlery in Western Ontario.**

The Best Triple-plate Spoon, guaranteed, with Initials Engraved free of charge, for \$2.50  
Silver Plated Pickle, \$1.00, formerly \$1.75; Silver Plated Castor, 5 bottle, \$3.00, formerly \$5.00; Silver Plated Butter Dish, \$1.25, formerly \$2.00; Silver Plated Butter Dish, \$4.00, formerly \$6.50.  
**CLOCKS FROM \$1.00 UP.**

Every article guaranteed as represented by **A. S. MURRAY & CO.**





PRIZE MEDAL SEEDS!

MY handsomely illustrated Seed Catalogue, containing a large amount of valuable information and a list of 1000 Varieties of Vegetable, Flower and Field Seeds, is now ready and will be mailed FREE to all applicants.

The New White Russian Oats, which has yielded the past season 70 to 100 bushels to the acre, at \$1.50 per bush 1 10 bush. lots; \$1.75 per single bush.; 50 cents for 3 lbs., by mail, postage prepaid.

For other novelties see my Catalogue. Send your address on a postal card for a copy.

GEO. WEBBROO. Prize Medal Seedsmen, LONDON, CANADA

SEEDS! RELIABLE SEEDS!

BRUCE'S Farm, Vegetable and Flower Seeds have been before the Canadian public for Thirty-one years, and we claim that they are unsurpassed in quality.

Descriptive Priced Catalogue

beautifully illustrated, containing all necessary information for the successful cultivation of Vegetables, Flowers, Field Roots, Potatoes, &c., is now published, and will be mailed free to all applicants.

JOHN A. BRUCE & Co., Seed Growers, Hamilton, Can.

Advertisement for D.M. FERRY & CO'S SEED ANNUAL FOR 1882, featuring an illustration of a woman and a child.

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

Two Valuable New Fruits.

THE EARLY CANADA STRAWBERRY yielded the past year 100 bushels to the acre. A good shipper, and a week earlier than the Wilson.

THE NIAGARA RASPBERRY—a larger and better berry than the Philadelphia, and one week later.

Also a general stock of small fruits of all kinds. Fruit and Ornamental Trees, &c., cheap. Send for Catalogue to

A. M. SMITH & Co., Box 571 St. Catharines, Ont.

Advertisement for GREGORY'S SEED CATALOGUE, featuring a logo with the text 'GREGORY'S SEED CATALOGUE'.

Thirty-Six Varieties of Cabbage; 26 of Corn; 28 of Cucumber; 41 of Melon; 33 of Peas; 28 of Beans; 17 of Squash; 23 of Beet and 40 of Tomato, with other varieties in proportion, a large portion of which were grown on my five seed farms, will be found in my Vegetable and Flower Seed Catalogue for 1882.

James J. H. Gregory, Marblehead, Mass.

GOOD BOOKS FOR THE Farm, Garden & Household

- Allen's (R. L. & L. F.) New American Farm Book \$2 55
American Dairying, by Prof L. B. Arnold 1 30
American Bird Fancier 2 50
Allen's (L. F.) American Cattle 2 50
Barnard's Simple Flower Garden 38
Strawberry Garden 2 50
Barry's Fruit Garden 2 50
Barn Plans and Outbuildings, 257 Illustrations and Designs 1 50
Bust's Family Kitchen Gardener 1 00
Butter and Butter Making; Hazard 25
Book of Household Pets, paper 50
Bommer's Method of Making Manures 25
Brill's Farm Gardening and Seed Growing 1 00
Culver's Fruit Preservers' Manual 25
Clock's Diseases of Sheep 1 25
Cooked and Cooking Food for Domestic Animals 20
Cook's Manual of the Apiary 1 25
Dodd's American Cattle Doctor, 12 mo 1 50
Every House Owner's Cyclopaedia 3 75
Elliott Lawn and Shade Trees 1 00
Flint on Grasses 2 50
Fuller's Forest Tree Culturist 1 00
Flax Culture. [Seven Prize Essays by Practical Growers] 30
Fuller's Grape Culturist 1 50
Fuller's Small Fruit Culturist 1 50
Fuller's Peach Culture 1 40
Gardening for Pleasure 30
Gregory on Squashes (paper) 1 25
Grant's Best Root Sugar 30
Gregory on Cabbages 30
Carrots, Mangolds, &c. 30
Onion Raising 30
Guenon on Milch Cows 75
Harian's Farming with Green Manures new 1 50
Harris on the Pig 1 50
Henderson's Gardening for Pleasure 1 50
Henderson's Gardening for Profit 1 50
Henderson's Practical Floriculture 1 50
Hop Culture. By nine experienced cultivators 30
House Plans for Everybody; S B Reed 1 00
Hunter and Trapper 1 00
Husmann's American Grape Growing and Wine Making; Illustrated 1 50
Johnson's How Crops Grow 2 00
Johnson's How Crops Feed 2 00
Johnson's Winter Greenhouses at Home 1 00
Keeping One Cow Profitably; illustrated with full page engravings of the most desirable Dairy Cows 1 00
Law's Farmers' Veterinary Adviser, author's ed 3 00
Law's Farmers' Vet'y Adviser, Can. ed 2
Our Farm of Four Acres. Paper, 80c; Cloth, 60c; extra cloth 1 00
Potato Culture—(Prize essay) 25
Packard's Our Common Insects 1 50
Quincy (Hon. Josiah) on Soiling Cattle 1 25
Quinn's Pear Culture for Profit 1 00
Rarey and Knowlson's Complete Horse Tamer 50
Ro'e's Play and Profit in my Garden 1 50
Stewart's Stable Book 1 50
Stoddard's An Egg Farm; paper, 50c; cloth 1 50
Talks on Manures. Joseph Harris 1 50
Thomas' Farm Implements and Machinery Ten Acres Enough 1 00
Tomson's Food of Animals 1 00
Waring's Farmer's Vacation 2 00
Wheeler's Homes for the People 2 00
Willard's Practical Butter Book 1 00
Williams' Window Gardening 1 40
Waring's Dialing for Profit and Health 1 50
Waring's Elements of Agriculture 1 00
Wright's Practical Poultry Keeper 2 00

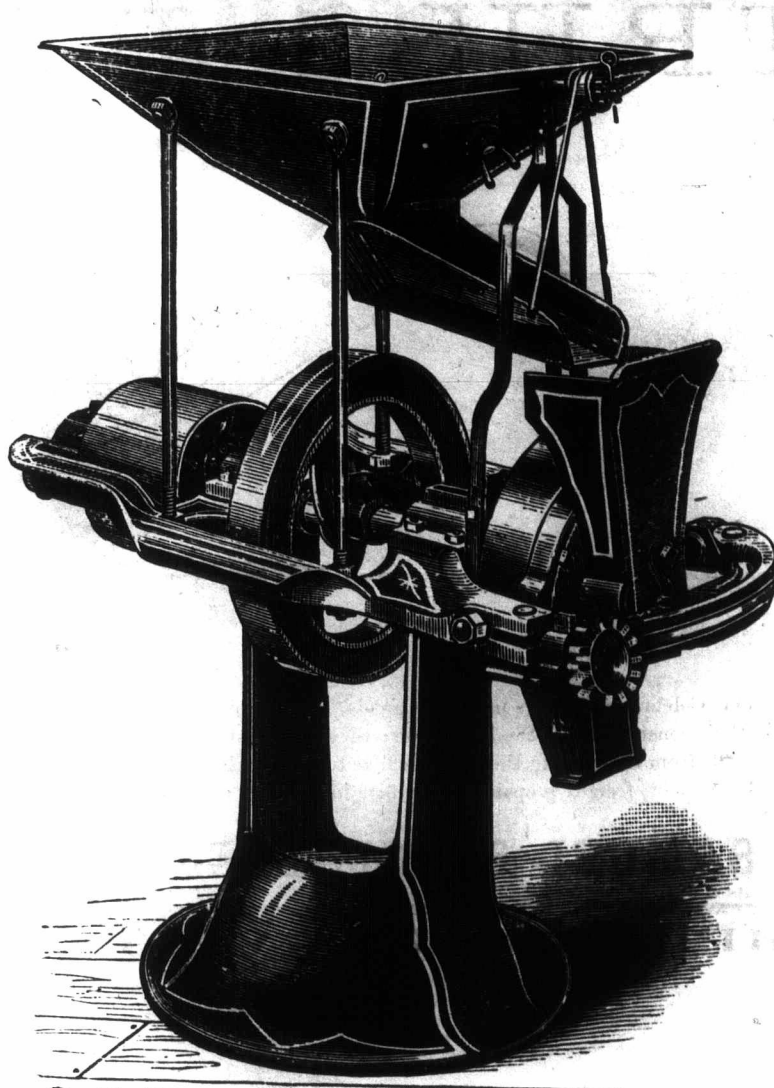
FARMS FOR SALE

In Western Ontario a number of choice Farms. Full descriptive 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 ac. agree to suit every one. Send to CHARLES F. BRIDGES, Real Estate Agent, Land Office, 93 Dundas street west, London, opposite to the City Hotel, for list of farms for sale. 176-f

PATENTS

We continue to act as Solicitors for Patents, Caveats, Trade Marks, Copyrights, etc., for the United States, Canada, Cuba, England, France, Germany, etc. We have had thirty-five years' experience. Patents obtained through us are noticed in the SCIENTIFIC AMERICAN. This large and splendid illustrated weekly paper, \$3.20 a year, shows the Progress of Science, is very interesting, and has an enormous circulation. Address: MUNN & Co., Patent Solicitors, Publishers of SCIENTIFIC AMERICAN 37 Park Row, New York. Hand book about Patents sent free. 192-a

The RAYMOND GRINDER



BEST IN THE WORLD.

This machine is specially constructed to grind grain for stock. It can be worked by either steam or horse power. Four to six horses will work it to its fullest capacity. It is capable of grinding thirty bushels per hour. Can be changed instantly to grind coarse or fine. It is the best mill a farmer or miller can have for grinding coarse grain. The grinding is done by two steel and hardened metal grinders, with sharpened edges, and are warranted to grind 1,000 bushels, and with care may grind many thousands. These plates are so constructed that any boy can replace them when worn. They are the only parts of the machine that prevent the mill from lasting for generations. The cost of new plates is only \$2. There is nothing to get out of order about it. Any good farmer may have one on trial. Full directions sent with each mill. Satisfaction guaranteed. Address

Brown & Patterson Manfg. Co., 194-a WHITBY, ONT.

SONGS, One Cent Each

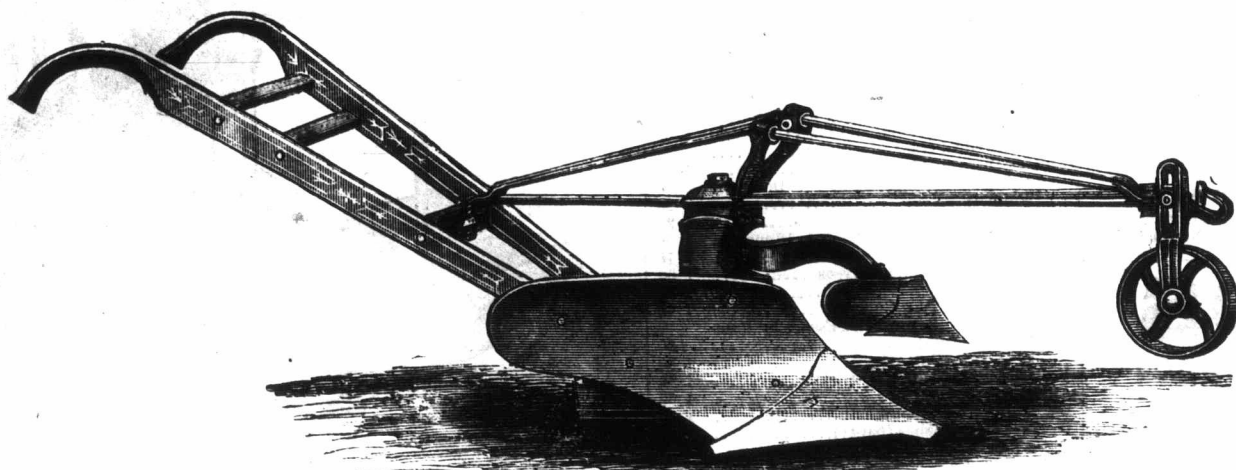
- 1 Baby Mine.
2 The Old Cabin Home.
3 The Little Ones at Home.
4 See That My Grave's Kept Green.
5 Grandfather's Clock.
6 Where Was Moses when the Light Sweet By and By. [Went Out. Maggie.]
7 Who, Emma.
8 When you and I were Young
9 When I Saw Sweet Nellie Home.
10 Take This Letter to My Mother.
11 A Model Love Letter,—comic.
12 Wife's Commandments.—comic.
13 Husband's Commandments.
14 Little Old Log Cabin in the Lane.
15 Marching Through Georgia.
16 Widow in the Cottage by the Sea.
17 The Minstrel Boy.
18 Take Back the Heart.
19 The Faded Coat of Blue. [Night.
20 My Old Kentucky Home. Good
21 I'll be all Smiles to Night Love.
22 Listen to the Mocking Bird.
23 Her Bright Smile Haunts Me Still
24 Sunday Night When the Parlor's
25 The Gypsy's Warning. [Full.
102 'Tis But a Little Faded Flower.
104 The Girl I Left Behind Me.
105 Little Buttercup.
107 Carry Me Back to Old Virginia.
110 The Old Man's Drunk Again.
111 I Am Waiting, Kissie Dear.
119 Take Me Back to Home & Mother
120 Come, Sit by My Side, Darling.
121 Kiss Me, Kiss Your Darling.
122 A Flower from Mother's Grave.
124 The Old Log Cabin on the Hill.
126 Coming Thro' the Rye.
127 Must We, Then, Meet as Strangers
128 The Kiss Behind the Door.
129 I'll Remember You, Love, in My
130 Nobody's Darling but Mine.
131 Put My Little Shoes Away.
132 Darling Nellie Gray.
133 Little Brown Jug.
134 Bon Bon.
135 Good-Bye Sweetheart.
136 Sadie Kay.
137 Tim Finigan's Wake.
138 The Hat My Father Wore.
139 I've Only Been Down to the Club;
140 Kiss Me Again.
141 The Vacant Chair.
142 The Sweet Sunny South.
143 Come Home Father.
144 Little Maggie May.
145 Molly Bawn.
146 Bally in Oh! Ally.
147 Poor Old Ned.
148 Man in the Moon is Looking.
149 Broken Down.
150 My Little One's Waiting for Me.
151 I'll Go Back to my Old Love Again
152 The Butcher Boy.
153 I've Gwine Back to Dixie.
154 Where is My Boy To-Night.
155 The Five Cent Shave.
156 Linger, Not Darling.
157 Dancin' in the Sunlight.

We will send by mail, post-paid, any ten of these songs for 10 cents; any twenty-five songs for 25 cents; any fifty for 50 cents. Or we will send all the above one hundred songs, post-paid for 90 cents. Remember, we will not send less than ten songs. Order songs by numbers only. Send one or three cent postage stamps. Valuable Catalogue Free. Mention this paper. WORLD MANUFACTURING CO., 122 Nassau Street, New York. Send silver or currency, if possible, in preference to stamps. 194-a



# THE "SEEGMILLER" TRUSS BEAM PLOW!

Flexible Wheel, Universal Standard Jointer Attachment.

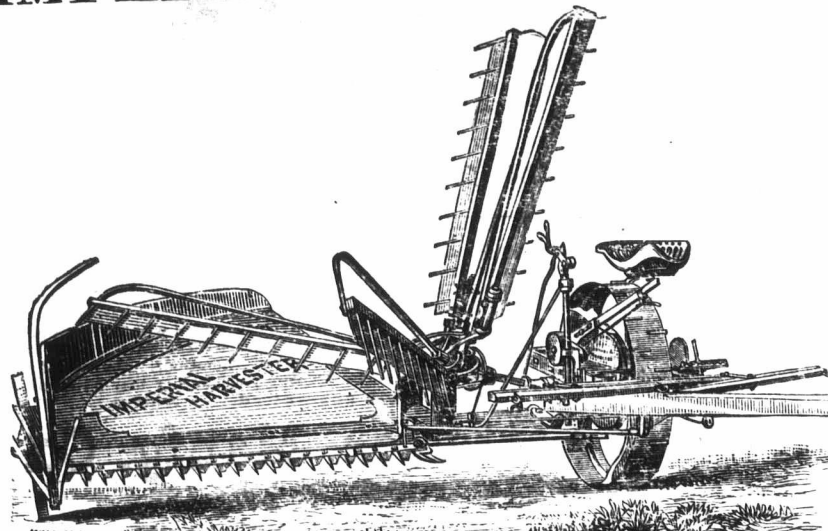


This Celebrated Plow is made in Canada. It combines all the advantages of the best American chilled plows, with additional improvements. The material used in their construction is the best made; they are constructed by the most skilled mechanics; their durability and efficiency are unsurpassed. The thousands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

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

**SAMUEL SEEGMILLER, Agricultural Foundry, GODERICH, ONT.**

## IMPERIAL HARVESTER!



The most perfect and complete Reaper in the world. Contains more practical patented improvements than any other Harvester in the market. It is the only machine made with platform and raking apparatus tilting independently of truck. In simplicity and durability it excels all others. It can not get out of order, and is guaranteed to work in any kind of grain. It is the cheapest machine ever offered to the farmer. It has no equal, and every farmer wants one. For particulars send to

**GLOBE WORKS CO., London Ontario.**

N. B. — AGENTS, if you want to sell the BEST machine made, see the  
192,1  
**IMPERIAL HARVESTER.**

Twenty-five Years'

experience of a  
CONSTANTLY INCREASING DEMAND  
for the

**Cook's Friend Baking Powder**

shows that the WANTS of the CONSUMER have  
been WELL STUDIED.

THE COOK'S FRIEND

is PURE, HEALTHY and RELIABLE. It will  
always be found equal to any duty claimed for it.  
Retailed everywhere.

ASK FOR McLAREN'S COOK'S FRIEND

**Good Reliable Men Wanted!**

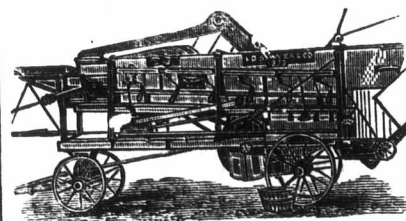
in every Township in Ontario, to take orders for  
the sale of

**Fruit Trees and other Nursery  
Stock.**

Address, with references,  
ALEX. PONTEY,  
193-1f  
St. James' Park P. O., Ont.

30 fancy cards, chromo, snowflake &c., no two  
alike, with name, 10¢.  
J. MINKLER & CO.,  
192-c  
Nassau, N. Y.

## SAWYER'S Grain Saver THRESHERS



READ WHAT THE FARMERS SAY OF IT:

John Burkell, Roseneath, Ont. — "Runs easy,  
light and very steady."  
John Beemer, St. George, Ont. — "No time lost,  
runs all day without stops."  
Pulfer & Charters, Brampton P. O., Ont. —  
"Works well in all kinds of grain, wet or dry."  
C. Nelson, Burn-Brae — "Second to none;  
stands at the top over all threshers."  
Jesse E. Furry, Lowbanks, Ont. — "No dust; no  
breaks; no stoppages."  
John Sigworth, Harrowsmith. — "Threshes  
clean without wasting grain."  
Allcock & Fleming, Ravenna. — "Beards barley,  
wet or dry, perfectly."  
C. B. Taylor, Trenton. — "Works splendid; gives  
universal satisfaction."  
Anglio Bros., Brewers' Mills. — "Runs and feeds  
easy; is superior to all others."

Address us for Illustrated Catalogue of  
**Threshers, Clover Mills,  
Horse Powers, Reapers  
and Mowers.**

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

173 1p

**CARDS 50 LOVELY Chromo Cards, our  
Drawing Room, Hand and Bouquet  
Series, entirely new, name on 10cts. Sample  
book free with \$1 order. Franklin Printing Co.,  
New Haven, Ct. 194-c**

ESTABLISHED 1840.

**PETER R. LAMB & Co.,  
Toronto, Ont.,**

MANUFACTURERS OF

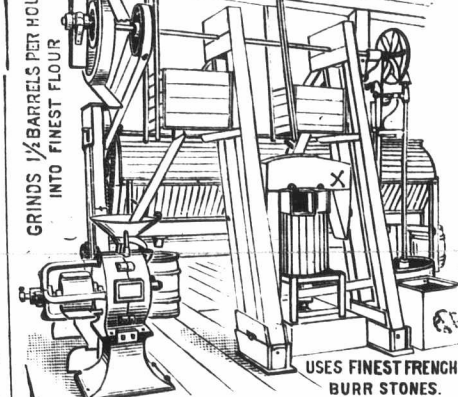
Superphosphate of Lime, - - -	\$30 per Ton
Fine Bone Dust, - - -	31 "
inch - - -	25 "
inch - - -	20 "

Diploma was awarded to us at the Provincial  
Exhibition, Sept. 23, 1852, for the first Bone Mill  
established in Upper Canada. 194-d

**AGENTS WANTED**

ESTABLISHMENT COMPLETE PORTABLE

GRIST MILL.



USES FINEST FRENCH  
BURR STONES.  
WATEROUS ENGINE WORKS CO. BRANTFORD, CANADA  
191-1f

**BEST WHEAT**

AND GRAZING LANDS ARE FOUND ON  
THE **Northern Pacific R. R.**  
IN MINNESOTA, DAKOTA,  
AND MONTANA.

**BIG CROP AGAIN IN 1881**

LOW PRICES: LONG TIME: REBATE FOR IMPROVE-  
MENT: REDUCED FARE AND FREIGHT TO SETTLERS  
FOR FULL INFORMATION, ADDRESS

**R. M. NEWPORT, GEN. LAND AGT.  
ST. PAUL, MINN.**

MENTION THIS PAPER.  
193-y